REPORT RESUMES

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A REPLICATIVE INVESTIGATION OF THE BUCKINGHAM-DOLCH
FREE-ASSOCIATION WORD STUDY. FINAL REPORT.
BY- JACOBS, HUGH DONALD
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PUBLISHED CHILDREN'S VOCABULARY LISTS BASED ON ACTUAL USAGE ARE ALL DRAWN FROM RESEARCH DONE PRIOR TO 1930. THE PRESENT STUDY REPLICATED THE 1926 BUCKINGHAM-DOLCH STUDY TO DETERMINE ANY VOCABULARY CHANGES. THE 2 HYPOTHESES TESTED WERE (1) THERE IS NO SIGNIFICANT VOCABULARY SHIFT, AND (2) COMMON WORDS DID NOT DIFFER IN GRADE-PLACEMENT (THE EARLIEST GRADE IN WHICH THE WORD APPEARS FREQUENTLY). THE EARLY VOCABULARY STUDIES WERE EXTENSIVELY REVIEWED AND THEIR LIMITATIONS DISCUSSED. THE STUDY SAMPLE WAS DRAWN FROM SCHOOLS IN THE WILLAMETTE VALLEY PLAIN, OREGON, AND CONSISTED OF 8,506 CHILDREN IN GRADES 2 THROUGH 6. INITIAL WORD LISTS WERE OBTAINED BY HAVING THE CHILDREN WRITE DOWN "ALL THE WORDS THAT CAME TO MIND" IN 15 MINUTES. COMPUTER PROCESSING WAS USED TO OBTAIN FINAL WORKD LISTS AND TO COMPARE THE 1926 AND 1966 LISTS. ALTOGETHER, 9,045 DIFFERENT WORDS WERE OBTAINED, OF WHICH 1,715 ON THE INTERNATIONAL KINDERGARTEN UNION LIST AND 2,820 WHICH COULD NOT BE GRADE-PLACED WERE REMOVED, GIVING 4,510 GRADE-PLACED WORDS. THE 1926 STUDY REPORTED 4,924 GRADE-PLACED WORDS. THERE WERE 2,969 COMMON TO BOTH LISTS, 1,955 UNIQUE TO THE 1926 LIST, AND 1,541 UNIQUE TO THE 1966 LIST. GRADE-PLACING IN 1926 REQUIRED THAT 2 STUDENTS OUT OF THE 16,813 IN THAT STUDY HAD WRITTEN THE WORD. THE 1966 STUDY REQUIRED 3 STUDENTS OUT OF 8,506 FOR GRADE-PLACING. THE GRADE-PLACEMENT OF 1,999 WORDS CHANGED, 1,395 MOVING TO A HIGHER GRADE IN THE 1966 LIST. IT WAS CONCLUDED THAT BOTH HYPOTHESES SHOULD BE REJECTED, THAT THE 1966 STUDENTS KNEW FEWER WORDS, AND THAT THE VOCABULARY ACHIEVEMENT OF THE 1966 STUDENTS CAME LATER. THE DATA OF THIS STUDY WILL BE AVAILABLE FOR ADDITIONAL RESEARCH. (DR)

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A Replicative Investigation of the Buckingham-Dolch Free-Association Word Study

August 1967

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

PS000429

JAN 15 1966

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OFFICE OF EDUCATION

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A REPLICATIVE INVESTIGATION OF THE BUCKINGHAM-DOLCH FREE-ASSOCIATION WORD STUDY

Project No. 7-8037
Contract No. OEC-4-7-008037-2050

H. Donald Jacobs

August, 1967

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The Office of Institutional Research for their many services, and the United States Office of Education and the Oregon School Study Council for their financial support.

H. D. J.

" . . . children's word knowledge is certain to change with changing life conditions and consequently no tabulation can be considered final."

Edward P. Dolch, Ph.D.

1889-1961

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CHAPTER I

NATURE OF THE PROBLEM AND THE STUDY

Background of the Study

Justification of Vocabulary Research

Edgar Dale wrote in 1956:

> Certainly, in preparing reading materials for all levels of ability, we need to have information about the experiences, the interests, the needs, the background, the information already possessed by these readers. All suggest the need for vocabulary study. Words, after all, are the deposit of experience--the result of what we have done or are thinking. They are the bearers of meaning--the symbols which represent experience.
>
> To have data on the vocabulary of individuals whom we are trying to teach is imperative. Let us not call such data 'mere words.' Words represent the concepts, the distillate of previous experience.[1]

McKee listed five ways vocabulary research can be, or is used:

1. It provides for a better selection of a spelling vocabulary.

2. It can insure better grade placement of a spelling vocabulary.

3. It can be used as a foundation for grammar courses.

4. It can assist in grade placing topics.

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[1] Edgar Dale, "The Problem of Vocabulary in Reading," Teaching Reading: Selected Materials, ed. Walter Barbe (New York: Oxford University Press, 1965), p. 108. Reprinted from Educational Research Bulletin, 35:113-123, May, 1956.

5. It can guide programs for developing reading vocabularies and meanings.[2]

Knott listed fifteen research needs in the area of vocabulary. Although some are not directly concerned with this study, all are presented to provide an overview of the vocabulary research potential.

1. There is a need for individual, longitudinal, "case-type" studies.

2. There should be some experimental work with programs intended for vocabulary development.

3. There should be identification, development, and utilization of esthetic and emotional vocabulary.

4. An effort should be made to determine how best to utilize vocabulary lists in making materials.

5. There should be "case-type" work for semantic frequency.

6. There needs to be some effort made to identify educational experiences for specific vocabularies.

7. A greater effort should be made in controlling how vocabulary research is applied.

8. Lists need to be developed of the "less-frequent" words.

---

[2] Paul McKee, "Research Values in Children's Writing Vocabularies," Elementary English Review, 7:73-77, March 1930.

9. There is a need to identify "age" words, that is, words that are used most frequently by certain age groups.

10. Dictionaries and glossaries need to be improved.

11. There needs to be more effective vocabulary control of subject area texts.

12. Vocabulary development should not be limited to basic grade-placed lists.

13. There is need for studies to determine if there are implications related to English vocabulary development and foreign language experience.

14. There needs to be a check to determine if vocabulary measurement techniques are valid.

15. There should be experimental work with reading and oral discussion activities to develop vocabulary.[3]

Justification of the Reported Study

No literature was discovered that describes the form and the extent of the utilization of the Dolch lists in the classroom. A few titles suggest or imply usage. Betts named six lists that were selected " . . . on the basis of their availability and general use." One of these six is the Buckingham-Dolch Combined Word List.[4] This writer interviewed approximately 120 teachers regarding the Dolch lists. The following conclusions were drawn from the interviews:

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[3] Thomas A. Knott, "Observations on Vocabulary Problems: Critique of the Seventh Annual Research Bulletin of the National Conference on Research in English," Elementary English Review, 17:64-67, February, 1940.

1. The Dolch lists are familiar to most teachers in remedial and primary reading.

2. The use of the lists may be greatest in the area of remedial reading.

3. Few people are aware of the origins and the ages of the lists.

The only description found by this writer of the Basic Thousand List was by Dolch. He described it as being "very satisfactory" for research and "the most carefully prepared and tested vocabulary . . . now available."[5] This writer compared the two lists and found that the Basic Thousand List includes the words of the Basic 220 List.

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[4] Emmett A. Betts, Foundations of Reading Instruction (New York: American Book Co., 1946), pp. 695-696.

[5] Edward W. Dolch, Problems in Reading (Chicago: The Garrard Press, 1948), p. 111.

Ruth Strang described the Dolch 220 List as consisting of fifty percent or more of the elementary school's reading matter.[6]

Kirk and Johnson wrote that the teacher must constantly be evaluating vocabulary development; one method is the use of word lists such as Dolch's Basic Sight Vocabulary.[7]

This writer was unable to learn from most of the publishers contacted what vocabulary list they used. According to descriptive literature, the Dolch lists are utilized in some of the materials prepared by Garrard, including the Dolch "Basic 220" flash cards.[8]

Dolch indicated in a 1948 publication that he considered the Basic Thousand List to be one of the best available for measuring text readability.[9] Dale and Chall wrote that their readability formula was based upon a study using Dale's First Three Thousand Words. This list came primarily from the Buckingham-Dolch Combined Word List.[10]

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[6] Ruth Strang, Constance McCullough, and Arthur Traxler, Problems in the Improvement of Reading (New York: McGraw-Hill Publishers, 1955), p. 299.

[7] Samuel A. Kirk and G. Orville Johnson, Educating the Retarded Child (Cambridge, Massachusetts: Riverside Press, 1951), p. 264.

[8] Edward W. Dolch, Teaching Primary Reading (Chicago: The Garrard Press, 1941), p. 210.

[9] Dolch, Problems in . . . , pp. 111, 238.

Two recent publications of edited materials contain references to the Free-Association Study or the Buckingham-Dolch List. Edgar Dale, in Barbe's Teaching Reading: Selected Materials, includes the Buckingham-Dolch list with three others as chief contributors toward the knowledge of vocabulary frequency. He also refers to the Free-Association Study results as being more sound than others in regards to probable vocabulary development rate.[11]

Albert J. Harris' edited title included an article by Dolch, dated 1955. In the article, Dolch referred to the Combined Word List as the "19,000 most common words" and as the primary source of data regarding frequency and difficulty of one-syllable and "long words".[12]

The apparent classroom utilization and the references in current literature seem to indicate the significance of the Dolch lists as subjects for further research.

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[10] Edgar Dale, and Jeanne S. Chall, "A Formula For Predicting Readability," Educational Research Bulletin, 27:11-20, 28, January, 1948, p. 16.

[11] Dale, "The Problem of Vocabulary . . . ," pp. 108-112.

[12] Edward W. Dolch, "Recognition of Long Words," Readings on Reading Instruction, ed. Albert J. Harris (New York: McKay Company, 1964) p. 225. Reprinted from Education, 75:604-608, May, 1955.

Lobdell wrote that teachers and authors control number and rate of new words by referring to vocabulary lists. These lists, in most cases, are " . . . pioneering and monumental words, having made important contributions to education . . . ." But, they are dated, restrictive, and from limited sources. The element of datedness is inherent in the latter two limitations, therefore it is likely to be the most serious. Even more recent vocabulary lists are dated, in that they include one or more of the standard lists of pre-World War II. Lobdell finally recommended replicating several of the earlier studies.[13]

The earliest publication reporting the Free-Association Study appeared in 1927.[14] From an interview with Mrs. Marguerite Dolch, it was established that the study was conducted in 1926. A 1928 publication, by Dolch, again reported the study and listed fifteen vocabulary studies to be used in the combined vocabulary list.[15]

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[13] Lawrence O. Lobdell, "Let's Update the Word Lists," Elementary English, 42:156-158, February, 1965.

[14] Edward W. Dolch, "Grade Vocabularies," Journal of Educational Research, 16:16-26, June, 1927.

[15] Edward W. Dolch, "Combined Word Studies," Journal of Educational Research, 17:11-19, January, 1928.

In 1936, A Combined Word List, by Buckingham and Dolch[16] was published. The list was a composite of the Free-Association Study and ten other vocabulary lists. The immediate and prior research of these eleven lists, 'h' through 'dd' in Figure 1 and Table 1 (pages 9 and 10), was conducted between 1914 and 1930.

In considering the dates of these lists, it seems appropriate to review some of the social changes. In 1926, Prohibition was seven years old and had seven years to go; Dr. Robert Goddard conducted his first liquid-fuel rocket demonstration; and, the first successful television transmission was performed. Also in that year, popular international awareness amounted only to concern over Mexican affairs and none of the significant events leading into World War II had yet occurred.

In 1927, Lindbergh made his transoceanic flight; and the first sound movie, "The Jazz Singer," appeared in New York. The Federal Radio Commission was formed and the first nationally scheduled radio broadcasts began. Jazz was becoming popular and socially acceptable, but not buying on credit. On the West Coast, unions were strongest in San Francisco, and were mainly for the skilled worker. The Teapot Dome Scandal was yet to become public.

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[16] Burdette R. Buckingham and Edward W. Dolch, A Combined Word List (New York: Ginn and Company, 1936).

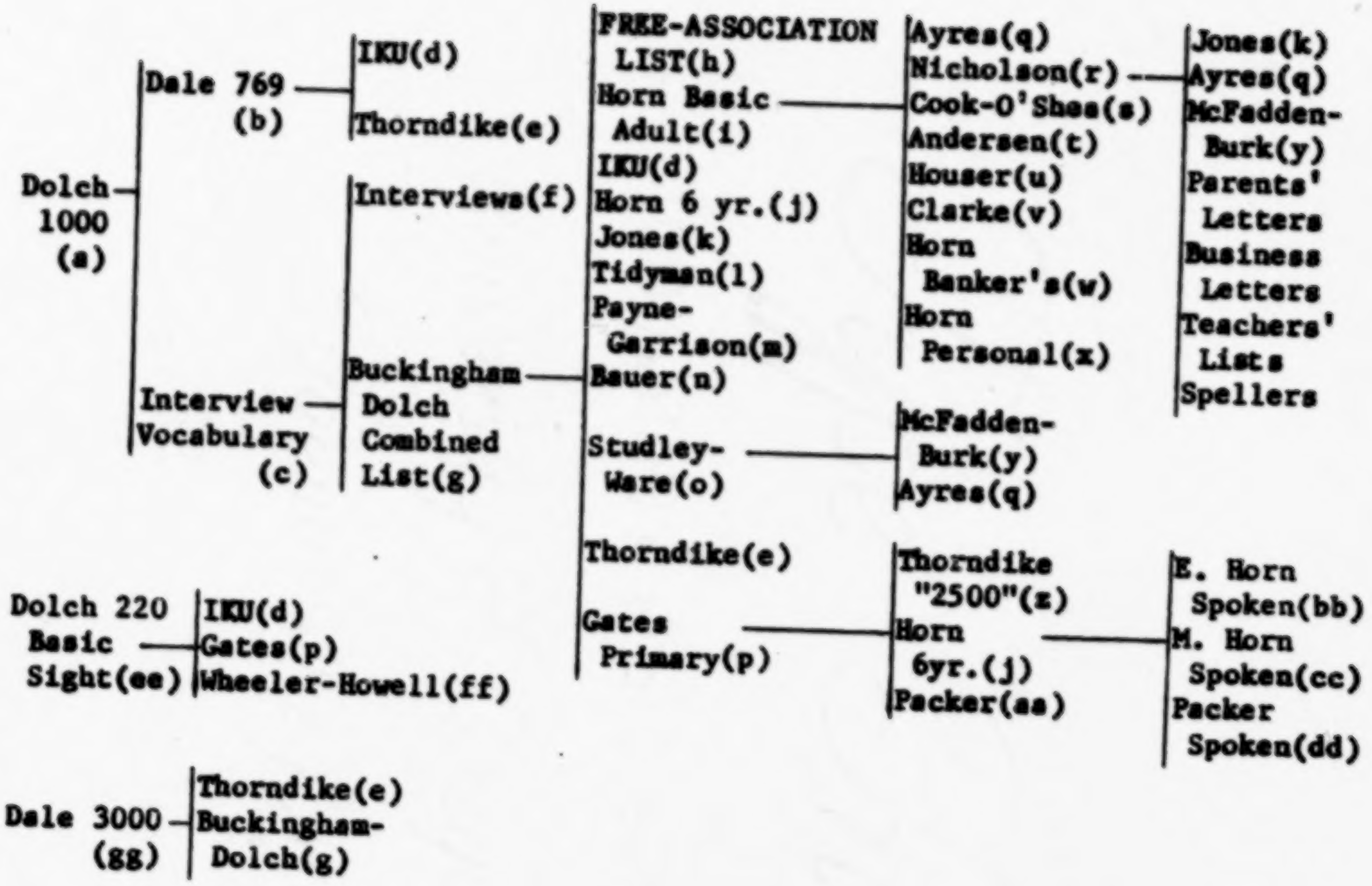
Dolch 1000 (a)
Dale 769 (b)
IKU(d)
Thorndike(e)
Interviews(f)
Interview Vocabulary (c)
Buckingham Dolch Combined List(g)
FREE-ASSOCIATION LIST(h)
Horn Basic Adult(i)
IKU(d)
Horn 6 yr.(j)
Jones(k)
Tidyman(l)
Payne-Garrison(m)
Bauer(n)
Studley-Ware(o)
Thorndike(e)
Gates Primary(p)
Ayres(q)
Nicholson(r)
Cook-O'Shea(s)
Andersen(t)
Houser(u)
Clarke(v)
Horn Banker's(w)
Horn Personal(x)
McFadden-Burk(y)
Ayres(q)
Thorndike "2500"(z)
Horn 6yr.(j)
Packer(aa)
Jones(k)
Ayres(q)
McFadden-Burk(y)
Parents' Letters
Business Letters
Teachers' Lists
Spellers
E. Horn Spoken(bb)
M. Horn Spoken(cc)
Packer Spoken(dd)
Dolch 220 Basic Sight(ee)
IKU(d)
Gates(p)
Wheeler-Howell(ff)
Dale 3000 (gg)
Thorndike(e)
Buckingham-Dolch(g)

FIGURE 1

ORIGINS AND RELATIVE POSITIONS OF RELATED VOCABULARY LIST STUDIES

(Refer to TABLE 1, page 10, or "Vocabulary Research Included in A Combined Word List," pages 54 - 73, for further information.

TABLE 1

SOURCES AND DATES OF STUDIES RELATED TO A COMBINED WORD LIST

LIST[1]	SOURCE	DATE[2]	DESCRIPTION
(a)	A:RM, WL C:S, RM	1948	Added 245 interview words to Dale's 769
(b)	A:RM, WL C:S, RM	1931	769 words common to IKU (d) and First Thousand (e)
(c)	C:TR	1948*	Words from (g) that 75% of first-graders knew in interview tests
(d)	C:S, TR	1928*	2, 596 words from speech in kindergarten, home, and answers to questions from pictures
(e)	A:RM, WL	1921*	10, 000 words primarily from adult writing and literature
	C:RM	1932	20, 000 words from the same study
(f)			See (c)
(g)	A:WL, RM C:S, EC, WL, RM	1936	Combination of (h) through (dd) directly and indirectly
(h)	C:W	1927*	15 minute period, list all words that come to mind, grades II-VIII
(i)	A:WL	1926*	10, 000 different words from 5, 137, 000 gross words of social studies
(j)	C:S	1925	Words with 15 f and on 3 lists, or 25 f and on 2 lists
(k)	C:WC	1915*	Grades II-VIII, themes to cover life experiences
(l)	C:WC	1921*	50, 000 "spontaneous" compositions, grades III-IX
(m)	C:WC, WL	1930*	6, 852 words from grades III-IX
(n)	C:WC	1916*	From themes of 90 topics to cover life and activities
(o)	A:WL C:WC	1914*	List of 3, 470 words from (q) and (y) plus 3, 459 words from 920 compositions
(p)	A:RM, WL C:S, RM	1926	Based on (z), (j), and (aa); presumed for grades I-II
(q)	A:WL	1913*	542 words common to personal and business letters
(r)	A:WL C:WC	1914*	Combination of (k), (q), and (y) plus own research, presented as proposed speller

TABLE 1 (continued)

LIST[1]	SOURCE	DATE[2]	DESCRIPTION
(s)	A:WL	1914*	200, 000 running words from letters of 13 adults
(t)	A:WL	1921*	Letters of doctors, bankers, farmers, and auto dealers; 56, 431 "running-words"
(u)	A:WL	1917*	1869 words from 65, 500 word sample of 750 farmers' letters
(v)		1921*	Comparison of Ayers' list (q) and speller with adult letters to newspaper
(w)	A:WL	1923*	Business letters of bankers, regionally identified; 2, 623 words obtained
(x)	A:WL	1922*	Unpublished: Highly personal letters of college students
(y)	A:WL	1914*	840 f2+ words from 91 adult letters
(z)	A:RM, WL C:RM	1921*	Most frequent 2, 500 of 10, 000; see (e)
(aa)	C:RM	1921*	Used 10 First Readers, conducted about 1918
(bb)	C:S	1925*	Speech of 80 children, 1-6 years, reported in (j)
(cc)	C:S	1925*	Speech in kindergartens, reported in (j)
(dd)	C:S	1925*	Speech of first graders, reported in (j)
(ee)	C:S, TR, RM	1948	220 words common to (d), Gates' first 500, and (ff)
(ff)	C:RM	1930*	2, 219 different words in root form from 10 primers and ten First Readers
(gg)	C:TR	1931	Approximately 3, 000 words known by 80% of 4th graders from 10, 000 word list common to (e) and (g)

LEGEND:

A = Adult
C = Children
S = Speech

W = Writing
-L = Letters
-C = Compositions

RM = Reading Materials
FA = Free-Association
TR = Test Response

[1] Letters refer to identification on Figure.

[2] Date is of earliest literature identified with the listed study.

*Indicates an original or initial study, or includes some original data.

It was the intent of this study, by its replicative nature, to determine if children's vocabularies have changed along with the many sociological changes since 1926, and if so, how and to what degree.

One major focus of current educational literature is the regional, socio-economic, and population class differences as related to learning readiness. In a cursory examination of Dale and Razik's bibliography, more than one hundred studies of this type were found.[17] Over half were conducted in the 1920's. The majority of those remaining was from the late 1950's. These later studies were limited in locale and sample variation.

It was provided within this study that the data collected here will be appropriate and available for such research at another time.

Educators are in general agreement that each child has several different vocabularies, however, there is less agreement as to how many and what types do exist. It is also commonly held by educators that school-type activities do not involve or identify all of the child's vocabularies. Labrant wrote that one of the problems for vocabulary research is to identify the unused vocabularies.[18]

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[17] Edgar Dale and Taher Razik, Bibliography of Vocabulary Studies (Columbus, Ohio: Bureau of Education Research, Ohio State University, 1963).

[18] Lou L. Labrant et al., "Needed Research in Language Expression," Elementary English Review, 29:35-38, January, 1952, p. 36.

In a review of the Dolch lists, this writer found that of the fourteen related vocabulary lists, only the Free-Association Study was not stimulus-oriented; that is, the vocabulary source was not from materials or setting related to a specific subject area, task, or interest. The Free-Association method appears to be least restrictive of all methods by the absence of a control stimulus, thus the "non-school" or "real" vocabularies are more apt to appear.

The relative position of the Free-Association Study in the origins of the various Dolch Lists, Figure 1 (page 9), and the above described uniqueness of the study's method seemed to indicate that if changes in children's vocabularies had occurred, it would most likely appear in a replication. Further, such a study would be significant to future lists and research similar to the 1926 study's descendants.

In the 1927 publication, Dolch reported the Free-Association Study.[19] In 1928, the study was again mentioned and the procedures for combining the results with other studies were described.[20] In 1936, the Combined Word List was published, which included a description of the Free-Association Study.[21] This writer has identified what may be significant omissions and contradictions in that literature. The foregoing are discussed fully in Chapter II.

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[19] Dolch, "Grade Vocabularies."

[20] Dolch, "Combined Word . . . ."

[21] Buckingham and Dolch.

It was hoped that a replicative study would provide answers to many of the questions that arose from the study of the literature.

Dolch wrote that despite some of their shortcomings, word counts have real value and should not be discarded. If the count is wide enough and carefully done, nearly every word of a population may be obtained. Such studies can lead toward other methods or sources or provide a base from which to begin.[22]

It was intended that the results of this study would implement this writer's decisions regarding direction and methods of future research.

Summary

The four most significant vocabulary lists in the areas of reading, writing, and spelling are the International Kindergarten Union List, Thorndike's List, the Buckingham-Dolch Combined Word List, and the Dale-Chall List. The IKU List was published in 1928; Thorndike's first publication was in 1921; and the Buckingham-Dolch List was published in 1936. The Dale-Chall List, published in the late 1940's, involved the merging and tabulation of data of which some was originated by Thorndike and Dolch.

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[22] Edward W. Dolch, Methods in Reading (Champaign, Illinois: The Garrard Press, 1955), pp. 242-243.

Vocabulary is a record of life experiences; and since life has changed in the past four decades, it seems safe to assume that these lists may no longer be adequate. To correct this weakness, it is necessary to repeat those studies that have had the most significant influence upon instruction. The suggestion for replicating these studies is based upon their historically established value. That several different studies must be repeated is based upon the facts that (1) different sources and methods are used, and (2) by combining results, reliability is more assured. This study is a step in that direction. The selection of this particular study was based upon the opinion that because of its method, it is the most susceptible to contemporary vocabulary usage.

This writer feels the study is justified when the following are considered:

1. The instructional uses of vocabulary information;
2. The limited knowledge of vocabularies;
3. Current use by teachers of the Dolch and other lists;
4. The assumed usage of vocabulary lists by publishers;
5. The inclusion of this early research in current literature;

6. The sociological changes since the time these studies were conducted;

7. The different vocabularies of children and the concern for learning activities to be closer to "real child life";

8. The uniqueness of the Free-Association Study method, which appears to be the least restrictive and most sensitive to contemporary child-life; and,

9. The inadequacies of the reporting literature.

Purpose of the Study

The primary purpose of this study was to measure the reliability of the Buckingham-Dolch Free-Association Word Study and thus determine the present-day validity of the Free-Association Word List.

The secondary purposes of the study were:

1. To provide an initial study to determine the necessity and direction for further research of similar nature.

2. To provide a pilot-study for the methods developed and used by this experimentor. The literature reporting the original Buckingham-Dolch Study overlooked several procedural steps in administration and data analysis.

3. To obtain data for future studies of vocabulary differences related to occupance, sex, and regional differences.

4. To obtain a word list for supplementary use in local classrooms.

Hypotheses of the Study

To determine the current appropriateness of the Free-Association Vocabulary Study List, the following hypotheses were tested:

HYPOTHESIS I: There is no significant percent of unique words in the 1926 or 1966 lists.

This hypothesis was tested with the 1926 list and then with the 1966 list by computing the Critical Ratio between the percent of unique words and the computed standard error of the percent.

HYPOTHESIS II: There is no significant percent of common words that changed grade placement between the 1926 and 1966 studies.

This hypothesis was tested by computing the Critical Ratio between the percent of common words that changed grade placement and the computed standard error of the percent. These procedures were repeated using only the words that moved downward and then only the words that moved upward in grade placement. The purpose was to determine if there was a significant directional trend. Since both the downward and upward percents were significant, the significance of the difference between the percents was computed.

Interpretations of significance were made at the (.01) level, in all of the analyses.

Procedures of the Study

In so far as possible, this study was a replication of the 1926 Buckingham-Dolch Free-Association Word Study. The Sample was almost two thousand students per grade, grades two through six, inclusively.

The Sample Sites were from consolidated school districts, distributed north-south, on the Willamette Valley Plain, as illustrated by Dicken.[23] Districts having a rural-nonrural enrollment ratio closest to one-to-one were selected. An exception was made in order to obtain a Sample Site in the Greater Portland region.

The response period was administered by classroom teachers from a prepared monologue. The students were instructed to, "Think of and write down, all the different words that you can." The students were allowed fifteen minutes.

The words were alphabetized, counted, and tabulated within each grade level by computer according to the criteria established by Buckingham and Dolch.

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[23] Samuel N. Dicken, Oregon Geography (Eugene, Oregon: University of Oregon Cooperative Bookstore, 1950), pp. 10, 12.

A grade-level list of words, arranged in sets of identical frequencies, was submitted to a panel of classroom teachers for each grade. The teachers selected one of the frequency sets as most illustrative of vocabulary achievement in that grade. The frequency of the set most often selected became the minimum frequency for grade placement. The resulting Grade Level List was then statistically compared to the 1926 list.

Limitations of the Study

The limitations of this study were of two categories: (1) those occurring in all vocabulary research and (2) those unique to this study. These limitations either reflect or call for assumptions.

Two basic problems of vocabulary research create limitations in all such studies. They are the definitions of "word" and "know." Conclusions regarding size and scope of children's vocabulary and whether some words should be listed more than once, some listed separately, or some not listed at all, depend upon the operational definition of "word" in that particular study. The definition of "know" influences the number and extent of generalizations or implications that can be formed regarding language abilities.

For the purposes of this study, and following precedent, this investigator assumed that a "word" is any orthographic symbol, established in dictionaries, that is not a proper noun, contraction, abbreviation, or slang with all regular forms tabulated in the root form. This definition created three additional limitations:

1. The study does not provide knowledge to the extent of word usage in relation to meanings.

2. The study does not provide complete information regarding contemporary nor colloquial vocabularies.

3. The study assumes that regular inflectional word forms are not as distinct from the root forms as are irregular forms that seem to create different or more difficult learning problems.

To develop a definition of "know" for this study it was necessary to consider the behaviors of the students in the response period and review the obtained data. None of the literature reviewed presented definitions or detailed discussion of "know." The behavioral definition of "know" in this study was as follows: The students knew the words to the degree that they (1) could recall the words, (2) felt they could spell them correctly, and (3) were able to spell them in a form recognizable to reading authorities. The definition, stated in this manner, emphasizes that any generalization from the results of this study that implies other student behaviors must be tentative.

A third problem in vocabulary research is an assumption critical to all frequency counts of children's word usage. Dolch, in

1955, stated the assumption as follows, ". . . children use all the words they know and use them in proportion to their familiarity with them."[24]

There were three limiting assumptions unique to this particular study. The administration of the Response Period was directed by the classroom teachers. It has been assumed by the investigator that the controlled monologue, stated in International Kindergarten List words, and the number of teachers and students erase any individual teacher influence upon the data.

The Sample is from the largest consolidated school districts on the Willamette Valley Plain. It appears that this is one of the very few studies where the Sample was intended to represent a geographic area with the geo-physical boundaries defined. The related assumptions are (1) the Sample schools are representative of the schools in the area and (2) any differences between the 1926 and 1966 results are related to sociological differences that have historical and regional origins.

No replicative research has been discovered where inferential statistics were used, thus there is no precedent to follow. It has been assumed that percent is appropriate with the large sample size and that Critical Ratio of percent may be applied as described by Garrett.[25]

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[24] Dolch, Methods in . . . , p. 241.

Definition of Terms

Alpha Sort. A computer programming term indicating that the data has been re-arranged into an alphabetical order.

Category Cell. The Response Sheets from each grade were separated into male and female groups and then into rural-type and urban groups. This created four groups in each grade. Each was then called a Category Cell.

Cell. See "Category Cell".

Common Word. The general vocabulary research term to identify a word found on more than one list or in more than one source when comparisons are being made.

Control Stimulus. A testing term to indicate that the responses are directed to or made with the stimulus in mind.

Credit. A vocabulary research term synonomous with exponent when weighting factors. Usually based on relative frequency and/or number of different sources in which word was found.

Criterion Frequency. A term in this study to identify the minimum frequency for grade placement.

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[25] Henry E. Garrett, Statistics in Psychology and Education (5th ed. rev.; New York: McKay Company, 1965), pp. 197, 235-236.

Critical Ratio. A statistical measure obtained by dividing the value of an item by the standard error of the item. The Critical Ratio is treated in much the same way as the t-ratio. It assumes a large Sample and normal distribution.

Data Cards. A term used in this study to identify the key-punch cards that were made from the Response Sheets and not yet edited.

Dictionary Method. The vocabulary research term identifying the research technique of testing vocabulary response by a sample list from a dictionary. The percent of correct responses is usually then multiplied by the sample ratio - the dictionary.

Dictionary Tabulation. A vocabulary research term to identify how the obtained words are listed. The list appears as in a dictionary with all regular inferential forms listed with the root.

Different Words. The vocabulary research term indicating the number of words in a sampling when all repetition is eliminated and all words that do not meet any other criteria for listing.

Dump. A computer programming term. When a print-out of the data is made as it appears on the recording material with no data processing occurring.

Edit Cards. The term used in this study to identify those key-punch cards that are used to edit data on the magnetic tapes.

Free-Association. The vocabulary research term identifying the method of this study. The vocabulary responses may be of any type or subject; there is no orienting stimulus.

Frequency. A vocabulary research term meaning the number of times a word occurs in one or more sources. It may or may not include forms other than the root. In this study, it is also the number of different children who list the word or its regular inferential forms.

Grade-List. At the end of this study, the words obtained and judged appropriate for each grade are listed alphabetically in separate lists for each grade.

Gross Words. A vocabulary research term identifying the total number of words in a source, including repetition and any words in the source not meeting specified criteria for tabulation.

Master-List. Along with the Grade-Lists presented at the end of the study, the words from all grades are combined in alphabetical order and listed with their grade-level source.

Net Words. See "Different Words".

Non-Rural. This term was operationally defined for this study as those students who identified themselves as not living "out of town". This did not respect city incorporate boundaries.

Outside Words. A vocabulary research term to identify words not found on a vocabulary list to which a comparison is being made. Usually a readability appraisal is being made.

Phase. A programming or administrative term indicating a point where data processing is different from what was done just previous.

Print-Out. A computer programming term identifying when the stored data, the processing, or the results of processing are printed by the computer.

Range. The vocabulary research term identifying the number of sources of a defined number of possible sources from which a word came. It may be expressed as the number of sources, as a percent, or as a fraction.

Regular Inflectional Form. Any form of a word where the addition of a suffix does not change the root meaning of the word. Plural, superlative, and the "ing" and "en" endings are the common examples.

Response Period. The term used in this study to identify the time when the students listed the words.

Response Sheet. The form on which the student made his list of words.

Running-Words. See "Gross Words".

Rural. The term used in this study to identify those students who described themselves as living "out of town".

Sample Site. The term used in this study to identify any school building participating.

Sample School. See "Sample Site".

Standard Error of the Percent. A statistical term identifying the range of one standard deviation of the mean of the percent likely to occur if the measure were repeated.

Stimulus Control. A testing term indicating that some control of stimulus or administration exists. It may or may not include a control stimulus.

Tabulation. A vocabulary research term identifying the listing method of the obtained words.

Type-Token Ratio. A vocabulary research term identifying the ratio of different words to running words.

Urban. See "Non-Rural".

Unique Word. The term used in this study to identify any word as coming from only one of two or more sources when a comparison is made.

Verbatim Data. A research term identifying data that is a record of all that was said.

Word. The term as operationally defined for this study means: any orthographic symbol, established in dictionaries, that is not a proper noun, contraction, abbreviation, or slang with all regular forms tabulated in the root form.

CHAPTER II

REVIEW OF THE LITERATURE

Trends of the Literature

This writer developed a frequency time-line of publications (Figure 2, page 29) from Dale and Razik's bibliography.[1] The number of publications per year increases rapidly after 1920; however, trends in the publications raise questions as to the general educational significance of the more recent literature. First, almost all of the well-known vocabulary lists come from the 1920's and 1930's: IKU (1928),[2] Gates Primary (1935),[3] Thorndike (1921, 1932, 1944),[4]

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[1] Edgar Dale and Taher Razik, *Bibliography of Vocabulary Studies* (Columbus, Ohio: Bureau of Educational Research, Ohio State University, 1963).

[2] Madeline D. Horn (Chairman), *A Study of the Vocabulary of Children Before Entering the First Grade* (Washington, D. C.: International Kindergarten Union, 1928).

[3] Arthur I. Gates, *A Reading Vocabulary for the Primary Grades* (2d ed. rev.; New York: Teachers College, Columbia University, 1935).

[4] The second and third publications are extensions of the same data for the first study. Edward L. Thorndike, *The Teacher's Word Book* (New York: Teachers College, Columbia University, 1921); *A Teacher's Word Book of 20,000 Words* (New York: Teachers College, Columbia University, 1932); and Edward L. Thorndike and Irving Lorge, *A Teacher's Word Book of 30,000 Words* (New York: Teachers College, Columbia University, 1944).

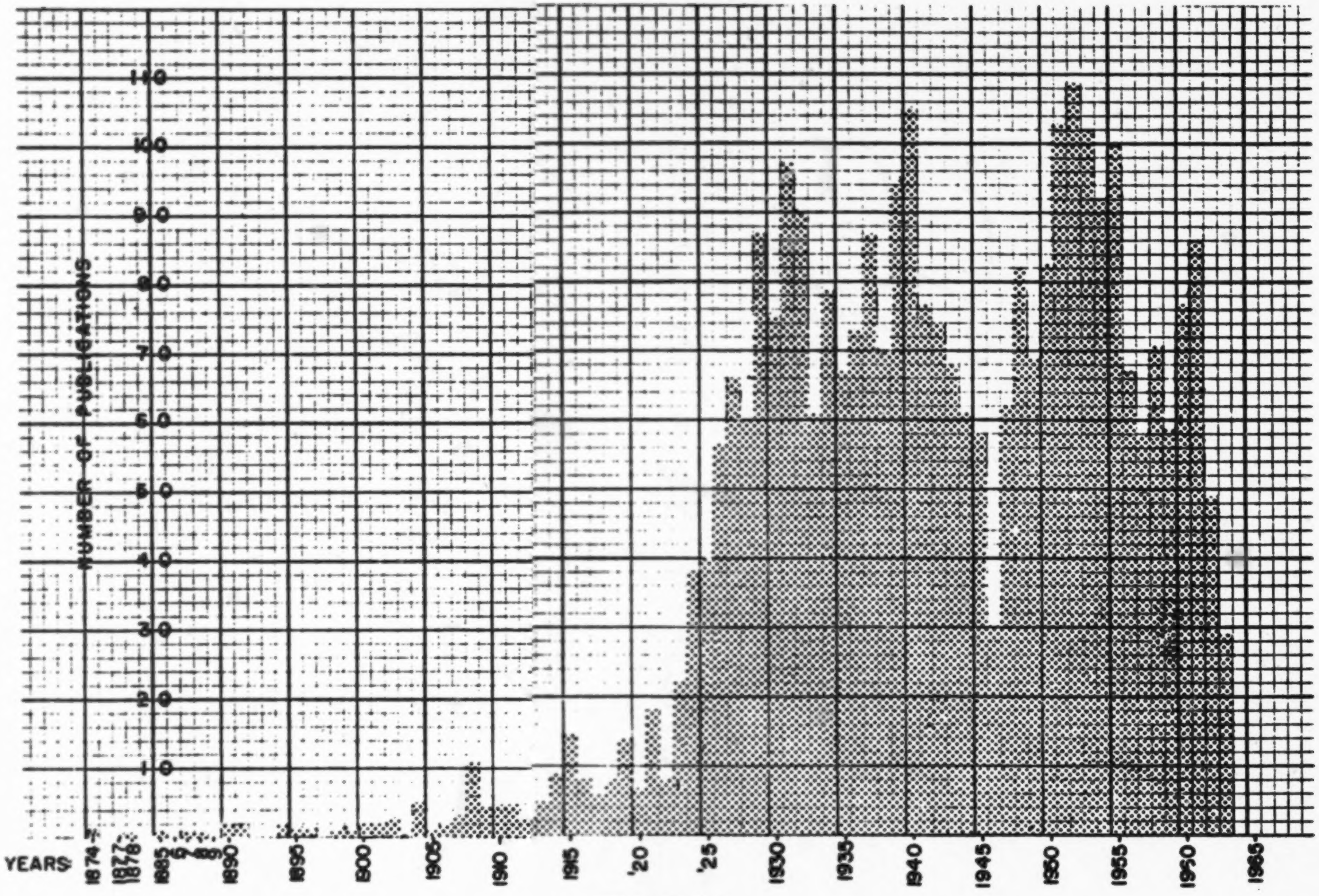

FIGURE 2

FREQUENCY TIME-LINE OF VOCABULARY PUBLICATIONS
LISTED BY DALE AND RAZIK

Horn Basic Writing (1926),[5] Rinsland (1945),[6] and Buckingham-Dolch (1936).[7] Second, in categorizing the more recent titles listed in Dale and Razik it appears that the majority of studies are concerned with socio-economic minority groups or special-education type students.

Only one replicative investigation was found in the literature. That study, completed by Kolson in 1960, has two other features, besides replication, that relate it to this study. The replication was of the International Kindergarten Union word study directed by Madeline Horn. The IKU words were removed from the Free-Association List in 1926 and again, in 1966. The other relating factor is that both Kolson's study and the study reported here included students from the Greater Portland, Oregon, area as part of the samples.

Kolson used a sample of 494 students from Portland, Pittsburgh, and Washington, D.C. He collected 897,973 running words by tape recorder in three different situations.

491,129 words in free play
307,883 words in responses to pictures and questions
98,961 words in the home

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[5] Ernest Horn, A Basic Writing Vocabulary (Iowa City, Iowa: University of Iowa, 1926).

[6] Henry D. Rinsland, A Basic Vocabulary of Elementary School Children (New York: MacMillan Co., 1945).

[7] Burdette R. Buckingham and Edward W. Dolch, A Combined Word List (New York: Ginn and Company, 1936).

Those words with a frequency of seven or more and listed in the 1954 Webster's International Dictionary, were included in the final list of 3,728 words. This was an increase of 1,132 words over the 1928 list. Kolson found that 97% of the basal reading text vocabularies were included; mechanical words had replaced natural words; baby talk and animal noises had disappeared; and 80% of the original IKU List remained.[8]

Problems and Criticisms of Vocabulary Research

Dolch's description of the basic assumption related to vocabulary research that was cited in Chapter I, bears repeating. He stated that one of the major vocabulary research problems rests in the basic assumption that ". . . children use all the words they know and use them in proportion to their familiarity with them."[9]

Dale presented data that described the problem of the number of different words necessary to obtain a certain proportion of the total writing vocabulary. The first column indicates the number of different words that usually accounts for the percent of written vocabulary shown in the second column.

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[8] Clifford J. Kolson, "Oral Arithmetic Vocabulary of Kindergarten Children," The Arithmetic Teacher, 10:81-83, February, 1963.

[9] Edward W. Dolch, Methods in Reading (Chicago: The Garrard Press, 1955), p. 241.

Number of Words	% of Writing Vocabulary
50	50.0
1,000	90.0
2,000	95.0
3,000	97.0
4,000	98.0
10,000	99.4

The accompanying question would be: How many running words are necessary to obtain 1,000, 2,000, or 10,000 different words?[10]

Dale, in 1931, also listed problems in conducting vocabulary research. A review of current vocabulary research literature indicated these problems still exist.

1. Lack of adequate bibliographies and unpublished theses.
2. An accepted, operational definition of "word."
3. An accepted, operational definition of "know."
4. Lack of criteria for selecting the test form or method to use.
5. No validation of research results; comparing word knowledge and later success.
6. The lack of a system for eliminating word load in material surveys for ease of counting and still maintaining a reliable ratio procedure.

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[10] Edgar Dale, "Vocabulary Measurement: Techniques and Major Findings," Elementary English, 42:895-901, October, 1965, p. 896.

7. The size and cost of studies.

8. The lack of results entering practice.

9. The researcher not planning, designing, nor suggesting, for utilization of his results.[11]

In discussing validity and reliability of adult vocabulary lists, Horn presented criteria that could be applied to any level vocabulary list. He claimed that many appraisals are made on the basis of gross frequency, or amount of response, and that this should not be so, since selectivity, of some kind, always exists. Horn suggested additional criteria as follows:

1. What was the sample distribution in terms of population cross-section?

2. What was the spread into various life activities? What were its size and proportions?

3. What is the quality of the words and their sources?

4. What was the geographic distribution?

5. What is the cruciality of the list and its words?[12]

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[11] Edgar Dale, "Difficulties in Vocabulary Research," Educational Research Bulletin, 10:119-122, March 4, 1931, pp. 119-122.

[12] Ernest Horn, "Validity and Reliability of Adult Lists," Elementary English Review, 16:129-134, April, 1939, pp. 129-131.

Coleman developed evaluative criteria for the vocabulary data gathering method used.

They are:

1. There should be objective measurements and quantitative results.

2. There should be a large number of subjects.

3. The student activities under analysis should be typical.

4. The subjects should be representative of the population: (a) age, sex, intelligence, geography, economy, and occupation; (b) proportional representation; and (c) adequate representation of the whole group of which they are samples.[13]

In 1940, Thorndike presented thirteen general criticisms of vocabulary research and vocabulary lists of that time. Since some of the criticisms are universal and most of today's teaching and research relies on those earlier works, the criticisms are still appropriate.

1. The length or size of the source materials for the lists are not given in the reports. This raises the questions of normality of the sources and appropriateness of the sampling ratio.

2. The sizes of the base lists (total number of different words obtained) are not given. This would reflect on the adequacy of the size of the study's final list and its tabulation criteria.

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[13] William H. Coleman, A Critique of Spelling Vocabulary Investigations (Greeley, Colorado: Colorado State Teachers College, 1931), pp. 51-52.

3. There are discrepancies between the counters within the same study. This may be a chance, mathematical error in the counting or it may be a consistent, biased error of interpretation and application regarding sampling procedure or the treatment of misspellings, repetitions, word forms and abbreviations, or different context forms.

4. Some of the data is not presented. Words with small frequencies are not listed or extreme variances among vocabulary sources are not described.

5. Some of the counts are limited in vocabulary content, and may not be so identified, ie; compounds, prefix-suffix forms, slang, contractions, proper nouns, words from envelopes in correspondence studies.

6. Response lists give strings of nouns, few prepositions, conjunctions, pronouns, and auxiliaries.

7. Timed-response periods are dependent upon previous mental-set.

8. The percent of grade-level usage is not indicative of mental ability or experience but of the two and their interaction, and should be so interpreted.

9. Spelling difficulty of words has been confused with student's past experiences and attention at the time of spelling.

10. The idea of a best set of words disregards the heterogeniety of the students. The effort should be to establish a basic 90% of most reasonable words to expect the student to know.

11. The lists may discourage additional development and instruction by the teachers.

12. There has been too much emphasis on the lists as perfect prescriptions of order and level.

13. The lists can be used for evaluation of material; therefore, the publisher should be required to list and locate the "outside" words (words not on a list) in their materials.[14]

Several studies have been conducted to determine validity and reliability of vocabulary research techniques. Two are presented here to further illustrate the research difficulties. Leifste attempted to determine the minimum sampling pattern necessary for measuring the vocabulary and readability of material. She used the Yoakam formula upon several texts. She obtained variations each sampling time; fifteen selected pages seemed the most practical and adequate pattern; for high accuracy, every tenth page should be counted.[15]

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[14] Edward L. Thorndike, "Value of Word-Counts: Critique of the Seventh Annual Research Bulletin of the National Conference on Research in English," Elementary English Review, 17:60-62, February, 1940, pp. 60-62.

[15] Bertha V. Leifste, "An Investigation of the Reliability of the Sampling of Reading Material," Journal of Educational Research, 37:441-450, February, 1944, pp. 44, 449-450.

Hartman evaluated the "dictionary-method" for determining vocabulary size. First, the experimentor prepares a list sampling from a dictionary on a mathematical-ratio basis. The list is then administered to individuals. The individual's score of known words is then multiplied by the sample ratio and the product is the "known vocabulary."

Hartman found that the size of the dictionary significantly influenced the size of the "known vocabulary," with the same individuals. Also, the size of the list, from the same dictionary, influenced the percent of correct responses of the same individuals. He further concluded that the research of that time, 1941, was too conservative, that the comprehension or recognition vocabulary of the college student and graduate was more likely to be more than 200,000 words.[16]

Literature Related to the Free-Association Study

The following discussion describes the original Free-Association Study as presented in the literature. Within the description, the previously mentioned discrepancies and omissions will be identified.

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[16] George W. Hartman, "Critique of the Common Method of Estimating Vocabulary Size, Together with Some Data on the Absolute Word Knowledge of Educated Adults," Journal of Educational Psychology, 32:351-358, May, 1941, pp. 354-355, 357.

The discrepancies are listed in Table 2 (page 39), which may help the reader to follow the discussion.

In 1927, Dolch presented an article describing the Free-Association Study. This was followed, in 1928, by a second article again reporting the Free-Association Study and also describing the Combined Word Studies project, then in progress. The result was to be a combined list of words from fifteen major vocabulary studies, including the Free-Association List. Finally, in 1936, A Combined Word List, including the Free-Association Study, was published. Only eleven, rather than fifteen lists as originally proposed, were included. Several of the eleven were not in the original proposal.

Purposes of the Free-Association Study

The primary purpose of the original study, as stated by Buckingham and Dolch, was to determine which words were known by children within each grade, grades II through VIII.

A second purpose was to extend the vocabulary research beyond the limitations of previous studies that used stimulation or association techniques. These other studies had been from specific material which tended to narrow the scope of the vocabularies obtained.[17]

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[17] Buckingham and Dolch, pp. 3-4.

TABLE 2

COMPARISONS OF DESCRIPTIONS OF THE FREE-ASSOCIATION STUDY

ITEM	1927[18]	1928[19]	1936[20]
Time	15 minutes	same	same
Methods	Free-Association	same	same
Sample Source	1/2 from small towns of Illinois, 1/2 from New York City and Brooklyn	same	plus "4,000" from New England (5489)
Number of Subjects	16,206	No mention	21,695
Total Words	2,312,000 (2,012,245)	No mention	2,414,897
Obtained Words	12,622	No mention	12,001
"1-f" Words	3,039	No mention	2,481
Words Grade-Placed	9,583	No mention	9,520
IKU Words	included	No mention	excluded
Tabulation Criteria	Thorndike's rules minus abbreviations, contractions, reduces 10,000 list to 9,312	No mention	as 1927 reduces 20,000 list to 17,890
Grade-Place Criteria	2-f	No mention	2-f except for grade II, 3-f
Number of Lists Used	No mention	15	11

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[18] Dolch, "Grade. . . ."

[19] Edward W. Dolch, "Combined Word Studies," Journal of Educational Research, 17:11-19, January, 1928.

[20] Buckingham and Dolch.

Rationale for the Free-Association Method

The basic technique in this study was to have the student write down all the words that came to mind in a period of fifteen minutes. Buckingham and Dolch wrote that limitations, due to suggestion, did exist at first, but were soon "exhausted" and wide variance of associations did occur within the fifteen minute period.

A second effect of this technique was to reduce the number of "running-words" necessary to obtain an adequate list of different words. The Free-Association "net" was closer to the "gross" in comparison to other research methods.[21]

Samples for the Free-Association Study

Almost one-half of the sample was from small towns in Illinois, the other half was from New York City and Brooklyn.[22] The reason for selecting these sample sites was to reduce the influence of environmental variations.[23]

In the report of 1936, Buckingham and Dolch wrote, " . . . part of our 4,000 lists from the grade (grade II) were written by children from various towns in New England."[24] This writer interpreted this to mean, there were 4,000 second-grade lists, part of them coming from New England. However, the 1936 report showed 7,560 second graders. Since grades III through VIII have the same number of students between the 1927 and 1936 reports (shown in Table 3, page 42), the increase appeared to be only in the second-grade. This increase was 5,489 students, far more than 4,000 or "part of 4,000." The difference between the totals of the two tables supported the 5,489 figure.

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[21] Buckingham and Dolch, p. 4.

[22] Edward W. Dolch, "Grade Vocabularies," Journal of Educational Research, 16:16-26, June, 1927, p. 17.

[23] Buckingham and Dolch, p. 4.

Administration and Tabulation of the Free-Association Study

The only reported administration procedures were as follows: the research was conducted ". . . at the end of the school year," and the children were instructed to write any words that came to mind in 15 minutes.[25] The identity of administrators, description of the settings, control of instruction delivery, and method of recording and collecting the student's lists were not presented.

The 1927 report (Tables 2 and 3, pages 39 and 42) indicated that a total of 2,312,245 "running-words" was obtained from 16,206

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[24] Buckingham and Dolch, pp. 4-5.

[25] Buckingham and Dolch, pp. 4-5; and Dolch, "Combined Word . . . ," p. 12.

TABLE 3

COMPARISON OF FREE-ASSOCIATION DATA TABLES PRESENTED IN THE 1927 AND 1936 LITERATURE[26]

Grade	1927 LITERATURE			1936 LITERATURE		
	Number of Children	Avg. Words per Child	Total Words per Grade	Number of Children	Avg. Words per Child	Total Words per Grade
II	2, 071	73	149, 228	7, 560	73	551, 880
III	2, 208	90	198, 720	2, 208	90	198, 720
IV	2, 350	140	329, 000	2, 350	140	329, 000
V	2, 335	155	361, 925	2, 335	155	361, 925
VI	2, 360	164	387, 040	2, 360	164	387, 040
VII	2, 430	172	417, 960	2, 430	172	417, 960
VIII	2, 452	191	168, 372	2, 452	191	168, 372
Totals	16, 206		2, 312, 245	21, 695		2, 414, 897

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[26] Buckingham and Dolch, p. 5; and Dolch, "Grade . . .," p. 17.

children. The 1928 publication stated 2,312,200 were obtained, with no mention of sample size. The 1936 publication reported 2,414,897 "running-words" were written by 21,695 children. Comparing the 1927 and 1936 totals, a difference of 102,897 appeared. The gain of 5,489 second-graders and an average of 73 words per child (Table 3), however, were cause to have predicted an increase of 410,697 "running-words." In checking the data, this writer discovered an error of addition in the 1927 report. The final total should have been 2,012,245, not 2,312,245 as shown. This created a difference of 402,562 words, which was closer to the predicted figure.

Several rules for tabulation of the words were adopted and established. From Thorndike, the authors used the following: Except for special reasons, separate entries are not made of (1) plurals in s; (2) plurals where y is replaced by ies; (3) adverbs formed by adding ly; (4) comparatives and superlatives formed by adding er and est, or r and st; (5) verb forms in s, d, ed, and ing.[27] In fact, regular inflectional forms were combined into one form for either the noun, the verb, the adjective, or the adverb; irregular inflectional forms were separate entries.

In addition, Buckingham and Dolch eliminated the following:

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[27] Thorndike, The Teacher's Word . . . p. v.

1. Proper names
2. Abbreviations
3. Contractions
4. Archaic or poetic verb forms

According to the authors, these additional criteria reduced Thorndike's lists, 1921 and 1932 editions,[28] from 10,000 and 20,000 to 9,312 and 17,890 words, respectively.[29]

In 1927, 1928 and 1936 publications all reported that the tabulation criteria reduced the total different words to 12,622.[30] This was of interest to this writer, since it was expected that with an increase of 5,489 students and an increase of 402,652 "running words" between 1927 and 1936 (Table 2), there would also be an increase of different words.

Between the time of the field-study report in 1926, and the presentation of the Combined Word List, the results of the International Kindergarten Union study were published.[31] This list of 2,596 words was reduced to 1,759 words when submitted to Buckingham and Dolch's tabulation criteria. These 1,759 words were eliminated from the list of obtained words. Buckingham and Dolch felt the IKU study had sufficiently established these words as pre-school and first-grade.[32]

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[28] Thorndike, The Teacher's Word . . . and A Teacher's Word Book of the 20,000 . . . .

[29] Buckingham and Dolch, pp. 5-6.

[30] Buckingham and Dolch, p. 15; Dolch, "Combined Word . . . ," p. 18; and Dolch, "Grade . . . ," p. 20.

[31] M. D. Horn, A Study of the Vocabulary of . . . .

To grade place the words, the list of obtained words were arranged into Frequency Sets within each grade. Each Set included all of the words from that grade and with the same frequency. These Sets were then evaluated by the authors and their assistants. They identified the Frequency Set they would describe as being closest to grade-level without adding or eliminating words for each grade. The assumption was that equal frequency meant equal knowledge.[33]

In 1926, the frequency of two or more was selected as having the group of words closest to grade-level, for all grades.[34] In 1936, a frequency of three or more was established for the second grade by the same method; the frequency of two or more remained for the other grades.[35]

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[32] Buckingham and Dolch, p. 6.

[33] Buckingham and Dolch, p. 10.

[34] Dolch, "Grade . . . ," p. 19.

[35] Buckingham and Dolch, pp. 10-11.

Based on Thorndike's research summary of vocabulary development,[36] and using the International Kindergarten Union's study, suggesting 2,000 words as the base,[37] Buckingham and Dolch constructed a curve of vocabulary development. The curve was based on the averages of vocabulary achievements at the end of the various grade levels. The annual vocabulary increases were estimated by determining the differences between the average achievements. Figure 3 (page 47) presents the curve with the achievements and increases indicated. The graph shows total grade achievements of 2,800 words at the end of the first grade, 3,600 at the end of the second grade, 7,500 at the end of the sixth grade, and 10,000 at the end of the eighth grade. The included table shows annual increases of 800, 800, 900, and 900 for grades one through four, 1,100 for grade six, and 1,300 for grade eight.

The authors applied the increase projections to the obtained grade-placed lists, to determine if the lists were reasonable in size. In their judgement the grade-placed lists were reasonable in size,

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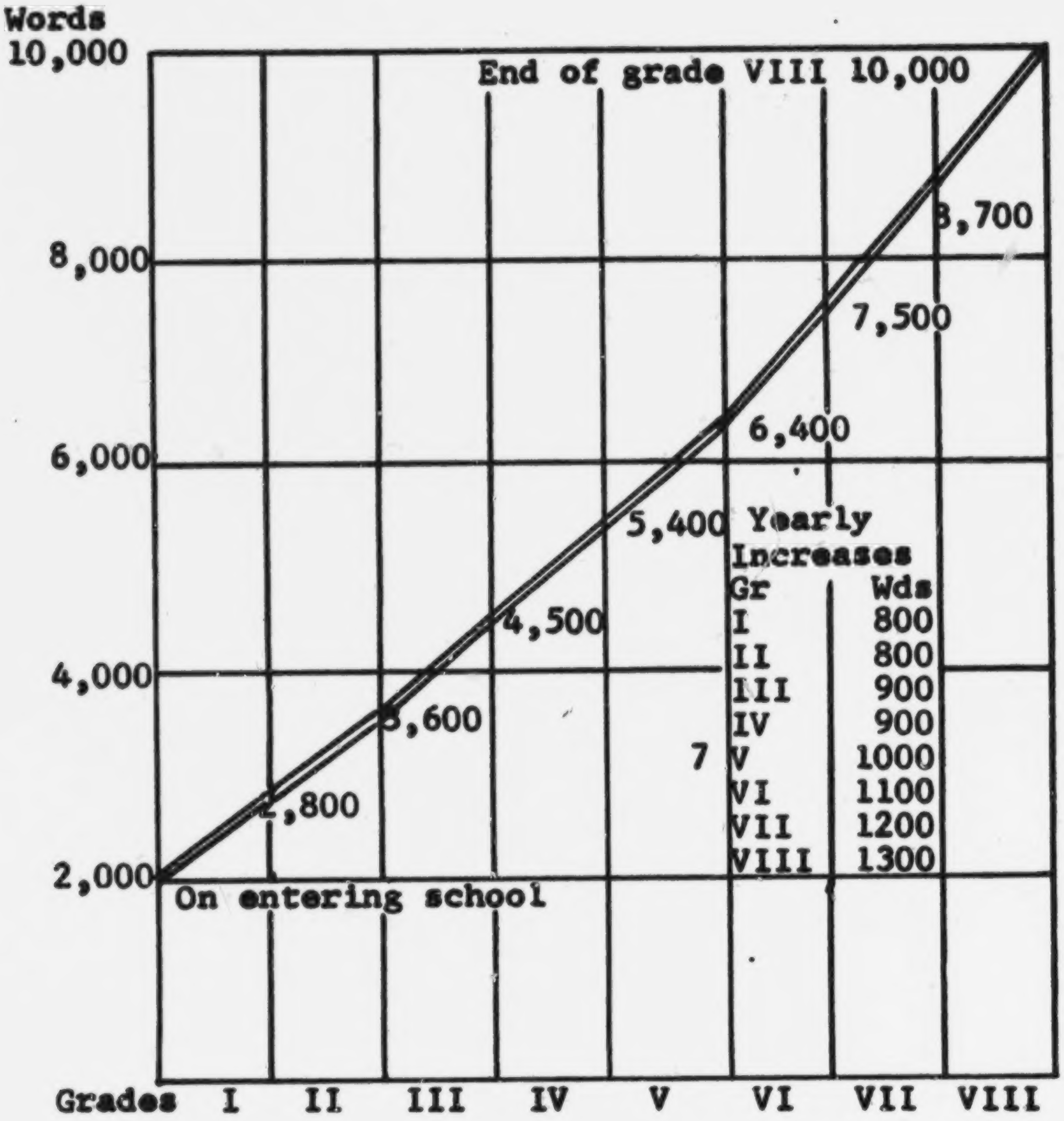
[36] Edward L. Thorndike, "Vocabularies of School Pupils," Contributions to Education, New York Society for the Experimental Study of Education, Volume I (Terrytown-on-Hudson, New York: World Book Company, 1924).

[37] M. D. Horn, A Study of the Vocabulary of . . . .



Yearly Increases

Gr	Wds
I	800
II	800
III	900
IV	900
V	1000
VI	1100
VII	1200
VIII	1300

FIGURE 3

PROBABLE VOCABULARY DEVELOPMENT
OF THE AVERAGE CHILD

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[38] Buckingham and Dolch, p. 9.

therefore the established frequency criteria were maintained.[39]

Results of the Free-Association Study

Table 4 (page 49) includes the number of words placed in each grade as reported in the 1927 and 1936 publications.

The 1927 publication reported 9,583 words were grade placed, and the 1936 publication reported 9,520 words were grade placed. The major differences between the two reports appeared in the primary grades. While no words were assigned to preschool in 1927, the 1,759 IKU words were so assigned in 1936. The second grade assignments dropped from 1,964 words in 1927 to 984 in 1936, the third grade assignments dropped from 1,179 in 1927 to 863 in 1936, and the fourth grade assignments dropped from 922 in 1927, to 767 in 1936.

It seems relevant at this point to consider other data that indicate another discrepancy in the publications. Table 5 (page 49) is related to this discussion. As previously cited, all three publications reported 12,622 different words remained after the tabulation

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[39] Buckingham and Dolch, pp. 8-10; and, Dolch, "Grade . . . ," p. 20.

TABLE 4

COMPARISON OF FREE-ASSOCIATION GRADE-PLACED WORDS AS REPORTED IN THE 1927[40] AND 1936[41] LITERATURE

LEVEL	NUMBER OF WORDS 1927	NUMBER OF WORDS 1936
Preschool*	--	1759
II	1964	984
III	1179	863
IV	922	767
V	1278	1100
VI	1340	1260
VII	1521	1448
VIII	1379	1339
Total**	9583	9520

*The International Kindergarten Union words are within the distribution of 1927, rather than separated as in 1936.

**The 1936 figures come from a sample source that is 5,489 second-graders larger.

TABLE 5

MATHEMATICAL RELATING OF THE 1927 AND 1936 REPORTS BY THE 1759 IKU WORDS

	1927 REPORT	1936 REPORT
(1) Total Words	12,622	12,622
(2) Not Grade Placed	-3,039	-2,481
(3) Total #1	9,583	10,141
(4) IKU Words	- - -	1,759
(5) Total #2	9,583	8,382
(6) IKU Words	1,759	- - -
(7) Total #3	7,824	8,382

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[40] Dolch, "Grade. . .," p. 20.

[41] Buckingham and Dolch, p. 12.

criteria were applied (row 1). The 1927 article reports 3, 039 words were not grade placed and the 1936 article reports 2, 481 words were not grade placed (row 2). This leaves remainders of 9, 583 and 10, 141 words (row 3). The 1, 759 words found on the IKU List were eliminated in 1936 (row 4), leaving a total of 8, 382 words, the 1927 word count remaining the same for the moment. If the IKU words were subtracted from the 1927 total (row 6), a total of 7, 824 words remain (row 7). The two totals and their difference seem plausible, since the 1936 total becomes larger, and was from a larger source.

Elsewhere in the 1936 article, however, the authors report that 2, 481 words were not grade placed, 1, 759 IKU words were removed, and 7, 761 words were grade placed.[42] These figures total 12, 001 words, not 12, 622. Adding more to the confusion, the figure of 7, 761 grade-placed words is less than the 1927 or 1936 totals indicated in Table 5. This writer could not, from the literature, account for the difference of 621 words between the two total word amounts reported.

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[42] Buckingham and Dolch, pp. 11-12.

Literature Related to the Combined Word List

The Buckingham-Dolch Combined Word List

As stated in 1928, the purposes of the project were: (1) to enlarge the scope of vocabulary research by combining the largest word studies, and (2) to provide a basis for forming grade-level vocabularies.[43] In 1936, A Combined Word List was recommended as a guide for adapting teaching materials.[44] In 1937, Dolch presented an article evaluating the list and also identifying weaknesses in vocabulary research. He listed the purposes of the Combined Word List as (1) to provide a single source of several vocabulary lists, and (2) to provide a list of the more common 19,000 words with their grade-placement or frequency for educational use or for comparison of research.[45]

In 1928, Dolch listed fifteen word studies, including the Free-Association Study, to be included in the Combined Word List.[46] In

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[43] Dolch, "Combined Word . . . ," p. 11.

[44] Buckingham and Dolch, p. 3.

[45] Edward W. Dolch, "Side Lights on a Combined Word List," Elementary English Review, 14:22-24, January, 1937, p. 22.

[46] Dolch, "Combined Word . . . ," pp. 12-14.

1936, only eleven word studies were listed. Some were not from the original list published in 1928. The added studies appeared after 1928 and the deleted studies were considered less important.[47] For a comparison of the two lists of studies to be used and were used, Table 6 (page 53) has been prepared.

Buckingham and Dolch justified the use of adult vocabulary research by stating that adult frequencies might help in deciding grade placement and that such research would certainly fill gaps within the children's lists.[48]

Evaluation of all vocabulary research was presented in the Combined Word List publication and in an article by Dolch the following year. Dolch wrote, "children's word knowledge is certain to change with changing life conditions and consequently no tabulation can be considered final." The children's world is expanding geographically, by travel; experientially, by literature; and technically, by media and their parents. Children are closer to the world of adult ideas, mostly due to the moving picture and the radio. In addition, the parents' attitude regarding children's curiosity has changed toward receptiveness. An expanding world means an

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[47] Buckingham and Dolch, pp. 13, 15.

[48] Buckingham and Dolch, p. 12.

TABLE 6

LISTS INCLUDED IN COMBINED WORD STUDY AND COMBINED LIST LITERATURE

LIST TITLE	1928	1936
Children's Usage:		
H. J. Smith's Children's Spelling Vocabulary	X	
Pearson-Suzzalo Composition Vocabulary	X	
Horn's Children's Vocabulary	X	X
Free-Association Study	X	X
W. F. Jones' Children's Theme Vocabulary	X	X
Tidyman's Children's Theme Vocabulary	X	X
Studley-Ware Children's Theme Vocabulary	X	X
Bauer Children's Theme Vocabulary	X	X
International Kindergarten Union		X
Payne-Garrison		X
Adult Usage:		
Cook-O'Shea	X	
Andersen	X	
Horn Writing Vocabulary	X	X
Reading Matter:		
Kircher	X	
Dewey	X	
Gates	X	X
Thorndike	X	X
TOTAL DIFFERENT WORDS	12,605	19,000

expanding vocabulary.[49] In 1937, he wrote that the Combined List project had revealed several gaps in vocabulary research. The treatment of compound words had been inconsistent. Regional terms were missing and so were many common, everyday terms such as those related to food and medicine. There was a need for sectional vocabularies. The Combined Word List was a general list for the greater bulk of children in the nation. It was not thorough, in terms of different words and grade placement of words, for different locales.

The fact that lists disagreed over grade-placement meant the need for further study. Indications were that grade-placement of a word may vary with meaning, which indicated another area of needed study.[50]

Vocabulary Research Included in A Combined Word List

The following is a brief description of each of the vocabulary lists included in or related to the 1936 title. Original sources were used whenever they could be obtained by this writer. Otherwise, descriptions by Dolch or from other literature were used; such sources are identified in the description. Each list is presented in alphabetical order, from Figure 1 and Table 1 (pages 9 and 10).

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[49] Buckingham and Dolch, pp. 16-17.

[50] Buckingham and Dolch, p. 17 and Dolch, "Side Lights on . . . ," pp. 23-24.

Dolch 1,000 (a). This list was an attempt to correct weaknesses of Thorndike's first 1,000.[51] Dale had combined Thorndike's first 1,000 with the IKU List and found 755 common words.[52] Dolch found this list inadequate and decided to enlarge it to 1,000. He divided the Dale List into the same topics as in the Interview Vocabulary (c, f). Omissions or "holes" in the Dale List were filled from the Interview Vocabulary until 245 words had been added. Dolch claimed the resulting list as very satisfactory. The list was presented in two formats: first, in topical order with the source list indicated; and second, in alphabetical order.[53]

Dale 769 (b). The 2,596 words from the International Kindergarten Union List[54] and the most frequent (first) thousand in the Teacher's Word Book[55] were combined. A list was then formed of the 769 words common to the source lists. The list was presented in alphabetical order, with indications of whether the word occurred in Thorndike's first or second 500. In addition, a list was presented of words not in the IKU List, but in Thorndike's First Thousand.[56]

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[51] Thorndike, The Teacher's Word . . . and A Teacher's Word Book of the 20,000 . . . .

[52] Edgar Dale, "Comparison of Two Word Lists," Educational Research Bulletin, 10:484-489, December, 1931.

[53] Edward W. Dolch, Problems in Reading (Chicago: The Garrard Press, 1948), pp. 108-129.

[54] Horn, A Study of the Vocabulary of . . . .

[55] Thorndike, The Teacher's Word . . . .

Interview Vocabulary (c, f). The meanings of the 19,000 words of the Combined Word List were listed with the words. All common meanings were included so that over 20,000 meanings were obtained. These meanings were then sorted into subject groups by two criteria: (1) as closely related a group of meanings as possible, and (2) groups not over 100 words. The results were 305 word groups among three levels of subordination.[57]

Those words that first-graders might know were chosen from the topics related to child life to form the test list. An interviewer then tested beginning first-graders for knowing and meanings of the words. The test items were objects, pictures, and standard questions. Testing of each word stopped when chances were ". . . 42 to one, that 75 out of 100 knew the word."[58]

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[56] Dale, "Comparison of . . . ," pp. 484-489.

[57] Edward W. Dolch, "Vocabulary Study by Fields of Interest," Elementary English, 32:283-288, 1955, p. 284.

[58] Dolch, Problems in . . . , pp. 109-110.

IKU (d). Madeline Horn directed this study by the International Kindergarten Union. The words were from three sources: (1) words used by children when stimulated by questions with pictures, (2) words used by children while in their kindergarten classes, and (3) words used by children in their homes. The running and individual word totals were:

	Kindergarten	Picture	Home
Running Words	489,865	306,839	97,878
Individual Words	7,186	5,150	4,789

Originally it was planned to have a list of 2,500 words; however, 96 more words had the same frequency as the twenty-fifth hundred word, therefore the list is of 2,596 words. The Kindergarten list is the key list, with the other two lists presented in parallel. The words are listed in alphabetical order with their kindergarten frequency; their position in the compiled list, by hundreds; their position in the picture list; and their position in the home list indicated. Words were included if they were:

1. Listed in Webster's International Dictionary of 1925.
2. Proper nouns in a biographical dictionary, or, a Pronouncing Gazateer.
3. Two or more words with single concept: "down town".
4. Children's words: "choo"

5. Proper nouns of children's interest: "Humpty Dumpty"
6. Slang: "gee"
7. Inflections of nouns, verbs, pronouns, adjectives
8. Contractions
9. Common, commercial words: "jello"
10. Colloquialisms: "mhm"[59]

Thorndike (e). In the 1928 publication, Dolch listed the 10,000 word Thorndike List. In A Combined Word List, Thorndike's 1931 publication of a 20,000 word list was used. The following description is from Thorndike's 1921 publication, as the additional 10,000 words are from the same study and treated by the same procedures. The sources and the "running-words" for the list were:

	"Running-Words"
Children's literature	About 625,000
Bible and English Classics	About 3,000,000
Elementary texts	About 300,000
Technical/craft literature	About 50,000
Newspapers	About 90,000
Correspondence	About 500,000
Totals: 41 different sources	About 4,565,000

The words were recorded with their range and frequency. Range indicated how many of the 41 sources used the word, and frequency indicated how many times the word was used by all sources combined.

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[59] M. Horn, A Study of the Vocabulary of . . . , pp. 3-5, 8.

The range and frequency were combined to form a "credit-number" in some manner not reported. The credit-number indicated the importance of the word. A credit-number of 49 or more meant the word was in the first thousand, 29 to 48 meant the second thousand, 19 to 28 meant the third thousand, and so on. There was further identification with the first five thousand and first hundred.[60]

Horn Basic Adult (i). In 1922 Horn received funds to combine nine previously conducted correspondence studies and to extend the research. The basic design was to replicate all of the studies, except one that lacked sufficient description of source and method, and then combine the data.

Proper names, words of less than four letters, and the 41 most frequent words of the combined earlier studies were eliminated to reduce tabulation labor. The different word forms were tabulated separately. The selected original eight studies and the replicative studies provided approximately 5,137,000 words from which 36,373 different word forms were found. Following a credit system based upon frequency and range of sources and establishing maximum credit weights of each source, the words with a credit of 15 or more were selected.[61]

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[60] Thorndike, The Teacher's Word . . . , pp. iii-vi.

[61] Horn, A Basic Writing . . . , pp. 21-23, 48-51.

Horn 6 yr. (j). The words of three studies were combined: a study by Ernest Horn of spoken vocabularies of eighty children, one to six years; a study directed by Mrs. Horn in kindergartens of Iowa and Minneapolis that had about 200,000 running words; and a study by P. C. Packer who tabulated about 70,000 running words, spoken by Detroit first-graders. The combination criteria were: (1) words with a frequency of 15 or more and on three lists were included, and (2) words with a frequency of 25 or more and on two lists were included.[62]

Dolch stated that the published list had 1,082 words from 5,000 different words obtained and that Horn provided the original data so that additional words could be added for A Combined Word List.[63]

Jones (k). Approximately 150 students, grades two through eight, from Illinois, Maryland, Iowa, and South Dakota wrote themes, daily, on any topic of interest in which the student had not recently read. A little over 75,000 themes were written, averaging slightly less than 190 words each, for a total of approximately 15,000,000

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[62] Ernest Horn, "The Commonest Words in the Spoken Vocabulary of Children up to and Including Six Years of Age," Twenty-Fourth Yearbook of the National Society for the Study of Education (Bloomington, Illinois: Public School Publishing Company, 1925), chapter VII.

[63] Dolch, "Combined Word . . . ," p. 12.

"running-words". The total number of grade-placed, different words was 4,532. Grade placement was based upon a frequency of three within the grade.[64]

Tidyman (l). This writer was unable to obtain the original literature.[65] Dolch wrote: "The words taken from 'spontaneous' compositions in Grades III to IX inclusive were used as the source of this list."[66] S. C. Garrison described Tidyman's study as follows: A total of 538,500 running words were obtained from 50,000 themes. One and two letter words were omitted. A "large number of common words, and words of very low frequency" resulted. The final list contained 3,850 words.[67]

Payne-Garrison (m). This was one of the lists not mentioned by Dolch in 1928, but included in A Combined Word List. A copy of the Payne-Garrison Speller,[68] could not be obtained by this writer.

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[64] Wallace F. Jones, Concrete Investigation of the Material of English Spelling (Vermillion, South Dakota: State University of South Dakota), 1915, pp. 4-6.

[65] W. F. Tidyman, Survey of the Writing Vocabularies of Public School Children in Connecticut (Washington, D. C.: United States Bureau of Education, 1921), Leaflet No. 15.

[66] Dolch, "Combined Word . . . ," p. 12.

[67] S. C. Garrison, "Teaching of Spelling," Peabody Journal of Educational Research, 8:94-99, September, 1930, p. 94.

[68] Bruce R. Payne and Garrison, Payne-Garrison Speller (Chicago: Rand McNally and Co., 1931).

Dolch described it as a list of 4,661 words, graded by frequency and difficulty, that were the most frequent fourth of 13,496 different words from 2,175,000 running-words. Children's themes and letters, high frequency words from "other childhood vocabularies", and Horn's adult-writing vocabulary were the sources.[69]

In 1930, Garrison discussed a list called "The Peabody Word List". This list was 6,852 words of high frequency from 13,496 different words found in 2,174,820 "running-words" of children's letters and themes. The material was from grades III through IX. It appears that this list, combined with the other vocabulary research, produced the spelling list.[70]

Bauer (n). This writer was unable to obtain the source literature.[71] Dolch described this list as coming from students' themes on 90 subjects designed to cover life and activities. Words were graded by frequency, not usage.[72]

Studley-Ware (o). This list came from the writing of children and adults. Studley and Ware randomly selected 920 compositions from city and rural schools in the Chico, California, school district, out of grades three through eight. From almost 200,000 "running-words", 3,459 different words and forms were found that were of common usage. The results were combined with the Ayres and McFadden-Burk Lists. The final result after combining the three lists was a list of 3,470 words. The words were grade-placed according to the following: ". . . words shall be commonly written, but not so long before as to become stale and forgotten . . . ." The list is presented in 170 numbered lessons for each grade level, and is accompanied by a list of 462 additional words, less commonly written, for, ". . . schools with excess energy and time . . . ."[73]

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[69] Buckingham and Dolch, p. 13.

[70] Garrison, "Teaching of . . . ," pp. 94-95.

[71] Nicholas Bauer, The New Orleans Public School Spelling List (New Orleans: F. F. Hanseal and Brothers, 1916).

[72] Dolch, "Combined Word . . . ," p. 13.

Gates Primary Reading (p). The writer was unable to obtain the original literature.[74] A revised edition was obtained. The revision is only by addition of words from an additional source. The original sources were included and selection and tabulation methods were identical to the 1926 study. The sources of the 1926 study were:

1. The most frequent 2,500 words from the Thorndike list,
2. Words from the most frequent 1,000 words of the Moor Study not found in the first 2,500 of the Thorndike list,

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[73] Clarence K. Studley and Allison Ware, Common Essentials in Spelling (Chico, California: Chico State Normal School, 1914), Bulletin No. 7, pp. 7-9.

[74] Arthur I. Gates, A Reading Vocabulary for the Primary Grades (New York: Teachers College, Columbia College, 1926).

3. Any additional words from Packer's most frequent 1,000 words,

4. Any additional words from the most frequent 1,000 words of Horn's Speaking Vocabulary.

A panel of experts were asked to judge each word of the composite list by child interest and child utility. The words were ranked by merit which was determined by frequency in children's literature, children's speech, and expert judgement.[75]

Coleman referred to the list as 1,500 different words of 1,263 different forms from 4,300 different words of high usage frequency.[76]

Ayres (q). This writer was unable to obtain the original literature of this study.[77] Studley and Ware reported that the list ". . . incorporates 542 words found . . . to be most fundamentally common in American written usage."[78] Horn reported that Ayres tabulated 23,629 running-words from the first position of each line of 2,000 business and personal letters. The final list was of those words with a frequency of six or more from the 2,001 different words.[79] The list was presented as an appendix entry by Anne Nicholson.[80]

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[75] Arthur I. Gates, A Reading Vocabulary for the Primary Grades (New York: Teachers College, Columbia University, 1935), 2d ed., pp. 1-4.

[76] Coleman, pp. 62-65.

[77] Leonard P. Ayres, The Spelling Vocabularies of Personal and Business Letters (New York: Russel Sage Foundation, 1913).

[78] Studley and Ware, p. 6.

Nicholson (r). This list was a composite of several other lists and was presented as a first draft of a speller for modification and approval by California teachers. Words found common to several other lists were added to the Jones List (k). Five of the additional word lists were presented in the appendix of the publication. The five lists were:

1. Ayres' Spelling Vocabulary of Personal and Business Letters
2. McFadden and Burk Vocabulary of Friends' Letters
3. Social Letters Vocabulary of San Jose Parents' Association
4. Vocabulary of Business Letters of the California Barrel Company
5. Vocabulary of Business Letters of the Emporium, San Francisco, and Hale's Department Store, San Jose.[81]

Cook-O'Shea (s). This writer was unable to obtain the original literature.[82] Horn described this study as 200,000 running words from personal correspondence of eight women and five men. The authors stated that the material was insufficient to approach the complete vocabulary of an individual. Horn went further to say that the low number of running words per person and the number of variables contrasting the persons forbid comparisons. The tabulation was by dictionary basis which detracts from the study's value regarding usage. Despite these weaknesses, the list of 5,200 different words did contribute in regards to knowledge of the probable size and extent of the personal correspondence vocabulary of one person.[83]

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[79] Horn, A Basic Writing . . . , p. 9.

[80] Anne Nicholson, A Speller for the Use of the Teachers of California (Sacramento: California State Printing Office, 1914), pp. 191-194.

[81] Nicholson, pp. 1-5, 191-217.

[82] William A. Cook, and Michael V. O'Shea, The Child and His Spelling (Indianapolis: Bobbs-Merrill Co., 1914).

Coleman reported that only 186 words were used by all thirteen writers and only 763 were used by seven or more.[84]

Andersen (t). This writer was unable to obtain the original literature of this study.[85] Horn described the list as a significant contribution in that occupation sources were identified with the tabulated words. This study provided some of the first stratified or cross-section vocabulary data.[86] The following table describes the data:

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[83] Horn, A Basic Writing . . . , pp. 10-12.

[84] Coleman, pp. 17-18.

[85] William N. Andersen, Determination of a Spelling Vocabulary Based Upon Written Correspondence (Iowa City, Iowa: State University of Iowa, 1921).

[86] Horn, A Basic Writing . . . , pp. 12-14.

DISTRIBUTION OF WORDS FROM OCCUPATIONAL SOURCES OF THE ANDERSEN WORD LIST

Occupational Source	No. Letters	Running Words	Different Words	f-1 Words	Exclusive f-1 Words	Exclusive f-2 Words
Doctors	124	14,014	2,222	1,130	210	37
Bankers	164	13,614	1,915	922	111	10
Farmers	160	14,513	1,754	835	97	9
Auto Dealer	138	14,290	1,881	775	132	23

Houser (u). Houser felt that investigations of adult writing needs should be oriented to economic and social classes and that the lists be expanded by classes, not just number. Houser collected 750 farmer's letters written to the University of California, Department of Agriculture, to test his hypothesis. The letters averaged 87 words, providing a running word source of approximately 65,500 words. The first and last words of each body line were tabulated, creating a sampling of 18,701 words. Suffixes and inferentials were tabulated with the roots. The resulting list included 1,869 different words. Houser concluded that as the frequency of usage reduced, more variance from other lists occurred and the vocabulary became more technical.[87]

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[87] J. David Houser, "An Investigation of the Writing Vocabularies of Representatives of an Economic Class," Elementary School Journal, 17:708-718, June, 1917.

Clarke (v). Clarke questioned whether the lists available at the time were adequate in terms of adult needs. He selected the Ayres' List and the Every-Day Speller as representative. A sample of 28,292 running words with 3,360 different words from 200 letters written to the editors of a Chicago daily newspaper was formed. The results felt by Clarke to be significant were:

1. 117 words from the Ayres List that should have occurred 3 times or more did not appear in the letters

2. 237 words that occurred 4 or more times in the letters were not in the Ayres List.

3. 108 words that occurred 4 or more times in the letters were not in the Speller. Clarke concluded that (1) the assumption that frequency-twelve words, from 100,000 running words would reoccur was not safe, (2) the assumption that frequency-twelve words from a few lists would include all words apt to occur in other similar lists was not safe, (3) current lists (1921) were inadequate to adult needs, (4) there had been a lack of consideration for habitat and social differences, and (5) vocabulary research needed more supplementing.[88]

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[88] William F. Clarke, "Writing Vocabularies," Elementary School Journal, 21:349-351, January, 1921.

Horn Bankers' (w). This study was similar to Houser's (u) by design, as it was of letters from bankers to bankers. An added dimension was regional sampling and identification. Fifteen states of nine different regions produced 1,125 letters. Different word forms were tabulated as different words. Horn found 2,623 different words, 189 of which were not on the Ayres List. Sectional differences of words were minimal with no difference of frequencies in most cases.[89]

Horn Personal (x). This study was never published; it is described in A Basic Writing Vocabulary. The purpose of the study was to secure data from letters of high personal nature. College students were asked to list and tabulate the words of letters they would not have made available to another person to tabulate. Approximately 100,000 running words provided 5,239 different words. In comparison to other studies, significantly more personal relationship, colloquial, slang, and college-life words were obtained.[90]

McFadden-Burk (y). This list was apparently not published other than by its inclusion in the appendix by Nicholson.[91] Horn described the list as 752 different words from 19,288 running words. He stated that the manner of computing and tabulating was not described and that it should have been, especially with such a low proportion of different words.[92]

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[89] Earnest Horn, "The Vocabulary of Banker's Letters," English Journal, 12:383-397, June, 1923.

[90] Horn, A Basic Writing . . . , pp. 16-17.

[91] Nicholson, pp. 195-199.

Studley and Ware described the study as providing 6,916 different words from 91 letters of common adult correspondence. The final list was of those 840 words with a frequency of two or more.[93]

Thorndike 2,500 (z). Thorndike listed the most widely used and frequent 2,500 words separately in his 10,000 word list. The words were in alphabetical order, within groups of 500, from most to least used.[94]

Packer (aa). This list was a frequency count of First Readers in the following series: Aldine, Beacon, Brooks, Carrol and Brooks, Cyr, Heath, New Education, New National, Riverside, and Wheeler. The frequency was within and among the texts. A total of 3,541 different words and forms were identified with frequencies from 5,246 (the) to 1. The words were arranged alphabetically, within frequency groups, with their own frequency and number of texts in which they were found. A summary table was included showing numbers of words in each frequency group. No date was reported, however Packer died in 1918, and the study was completed by others in the Graduate College, University of Iowa.[95]

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[92] Horn, A Basic Writing . . . , pp. 9-10.

[93] Studley and Ware, p. 6.

[94] Thorndike, The Teacher's Word . . . .

Horn 6 yr. Speaking (bb). No source literature was identified. This study was mentioned and very briefly described by Ernest Horn, in his 1925 presentation. Verbatim data was recorded of eighty children, one to six years old.[96]

M. Horn Kindergarten Speaking (cc). No source literature was identified. E. Horn mentioned this study as part of his speaking vocabulary list. Mrs. Madeline Horn used kindergartens in Iowa and Minneapolis and obtained about 200,000 running-words.[97]

Packer First-Grade Speaking (dd). No source literature was identified. Horn cited this study as being part of his speaking vocabulary list. Packer tabulated about 70,000 words spoken by Detroit first-graders.[98]

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[95] J. L. Packer, and May M. Beck, "The Vocabulary of Ten First Readers," Twentieth Yearbook of the National Society for the Study of Education, Part II (Bloomington, Illinois: Public School Publishing Company, 1921), p. 127.

[96] Horn, "The Commonest Words In . . . ," p. 185.

[97] Horn, "The Commonest Words In . . . ," p. 185.

[98] Horn, "The Commonest Words In . . . ," p. 185.

Dolch 220 Basic Sight (ee). Three lists were combined to form the list of 220 words that were considered basic necessity for reading readiness. From the International Kindergarten Union List, 510 words with a frequency of 100 were selected; from Gates' List, the first 500 words were used, and the 453 words from Wheeler and Howell. The three lists were compiled on a dictionary basis (regular inflectional forms combined with root) and merged. The final list consisted of those words common to the three lists and was presented in three formats grouped by parts of speech; in alphabetical order; and in difficulty halves.[99] The 220 words also appear in the "Dolch 1,000."

Wheeler-Howell (ff). The purpose of this study was to check Gates' primary reading vocabulary study against ten Primers and ten First Readers, more "recently" published. The copyrights were 1922 through 1929. Variant word forms were counted separately except for plurals in 's', later the variants were combined for the comparison to the Gates List. Proper names were excluded. The authors obtained a combined vocabulary of 2,061 words from the First Readers and a combined vocabulary of 2,219 different words from all twenty texts.

The words were treated mathematically to obtain ranks for comparison to the Gates' List. The formula was: f x bf ÷ 20; the raw frequency multiplied by the number of books using the word, divided by twenty. In the first one-hundred words, 68 were common with Gates; 74 percent were common in the entire list with Gates' first 500. The authors found large discrepancies in the ranking of the words. The list was presented in alphabetical order, with the obtained rank and Gates' rank indicated for each word.[100]

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[99] Dolch, Problems in . . . , pp. 97-107.

Dale 3,000 (gg). This list was constructed by testing fourth graders' knowledge in reading of almost 10,000 words common to the Thorndike and Combined Word List. The final list was of approximately 3,000 words that were known by at least 80 percent of the fourth graders. This list was the basis of the Dale-Chall readability formula.[101]

Summary

The main diagram in Figure 1 (page 9) that shows origins and related positions of studies has forty-one entries. These entries consist of only 32 different studies, eight of which were never published. The difference in totals is the result of repeated use of several studies.

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[100] Helen E. Wheeler and Emma Howell, "A First-Grade Vocabulary Study," Elementary School Journal, 31:52-60, September, 1930, pp. 52-59.

[101] Edgar Dale and Jeanne S. Chall, "A Formula for Predicting Readability," Educational Research Bulletin, 27:11-20, 28, January, 1948, pp. 13-20.

Fourteen of the twenty-four published studies are solely of original data. Five of the published studies include both original and previously obtained data. The remaining 5 studies are composites of previous research. Seven unpublished studies are of original data. The dates of the studies with original data are prior to 1930.

Nine of the 24 different published studies are of children's vocabularies, 8 are of adult vocabularies, and 7 are of both, these include speaking, writing and reading vocabularies.

To conclude, only 12 of the 41 entries, or, 10 of the 32 different studies, or, 7 of the 24 published studies are of original data that include only children's vocabularies; and, all of these are dated prior to 1930.

Conclusion

There has been a rapid and large increase in the number of vocabulary studies since 1930; however, most have been of very limited scope. The more well-known studies are from data originating in the 1920's and 1930's. Most problems of vocabulary research seem to have remained over the years. Primarily, they are size of source data, cost, time necessary for tabulation, basic assumptions, utilization, and datedness.

The literature reporting the original Free-Association Study has significant omissions and contradictions regarding results and procedures.

A tracing of the origins of vocabulary research indicates a preponderance of data from adult usage and children's reading materials. Those studies of children's usage that do exist are quite dated and few in number.

CHAPTER III

EXPERIMENTAL PROCEDURES

Population and Sample Source

The population area for this study was the Willamette Valley Plain, in the State of Oregon, as illustrated by S. N. Dicken.[1] Large, consolidated school districts having a rural to non-rural enrollment ratio closest to one-to-one were selected for Sample Sites. An exception was made to obtain suburban Sample Sites in the Greater Portland area. The Sample Site districts were:

1. Beaverton School District
2. Oregon City School District
3. West Linn School District
4. Corvallis School District
5. Junction City School District
6. Bethel School District

The Initial Sample consisted of all students in attendance in regular classrooms on the day of the Response Period. The Final

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[1] Samuel N. Dicken, Oregon Geography (Eugene, Oregon: University of Oregon Cooperative Bookstore, 1950), pp. 10, 12.

Sample was of those students who participated less those who met the elimination criteria listed on page 80.

The Initial Sample was to have been approximately 2,400 students per grade, to provide a Final Sample of approximately 2,200 students per grade. The Final Sample was less than desired due to the methods of estimating Initial Sample sizes, the elimination criteria, and errors of administration in a few classrooms.

Two Occupance Types were identified within the Sample: urban and rural. The identification of rural subjects was determined by each pupil's response(s) to one or both of the following questions: Do you live in town? Do you ride the bus? No such identification was made in a building if the questions were considered by the building staff to be ineffective in discriminating occupance types. The result is that an undetermined number of rural students may be included in the urban category.

Table 7 presents the Final Sample size and its distribution. The Sample total was 8,506 students. The male students numbered 4,416, or 51.92% of the sample, and the female students numbered 4,090, or 48.08% of the sample. The urban occupance had 5,832 (68.56%) of the students and the rural occupance had 2,674 (31.44%) of the students. In a further breakdown of the distribution, the four category cells accounted for the distribution as follows: Urban-Male,

TABLE 7

IDENTIFICATION AND DISTRIBUTION OF SAMPLE SUBJECTS

		CELL 1 URBAN-MALE		CELL 2 URBAN-FEMALE		CELL 3 RURAL-MALE		CELL 4 RURAL-FEMALE		Σ
		N	%	N	%	N	%	N	%	
	II	589	33.93	586	33.76	307	17.68	254	14.63	1736
	III	594	35.53	563	33.67	288	17.22	227	13.58	1672
	IV	555	33.45	570	34.36	381	16.94	253	15.25	1659
	V	632	36.22	579	33.18	288	16.50	246	14.10	1745
	VI	607	35.83	557	32.88	275	16.23	255	15.05	1694
CELL TOTALS		2977	35.00	2855	33.56	1439	16.92	1235	14.52	8506
OCCUPANCE TOTALS	Urban			5832	68.56					8506
	Rural							2674	31.44	
SEX TOTALS	Male					4416	51.92			8506
	Female							4090	48.08	
SAMPLE TOTAL										8506

2,977 (35.0%); Urban-Female, 2,855 (33.56%); Rural-Male, 1,439 (16.92%); and, Rural-Female, 1,235 (14.52%) students.

The upper portion of the table is read as follows. In the second grade, there were 589 Urban-Males, which accounted for 33.93% of the 1,736 second grade total shown in column 'Σ'. There were 586 Urban-Females, which were 33.76% of the 1,736 second graders. The 307 Rural-Male students and the 254 Rural-Female students were 17.68% and 14.63% of the second grade.

Administration

Date. The sampling was conducted at the end of the 1965-1966 school year.

Sampling. All students in regular classrooms, grades two through six, of each Site School participated. No selection or elimination occurred during the administration.

Control. A prepared set of directions, with monologue, was used for control of stimulus association (Appendix A). The words used in the monologue were included in the International Kindergarten Union List. These words were eliminated in the tabulation process.

Administration Activities. Administration of the Response Period was by the classroom teacher, following the printed instructions and monologue. The students were asked to write down all the words that came to mind in a fifteen minute period. The students were instructed to put 'M' for male or 'F' for female in the upper-right corner of the Response Sheet; 'Yes' or 'No' for town residence; and, or 'B' if they were a school bus rider. The Response Sheets were collected by the teacher and given to the experimentor.

Data Preparation

Figure 4 (page 81) has been prepared to help the reader visualize the sequence of the procedures. The handbook "Procedure Specifications" has the specific details of procedures, formats, operations, and nomenclature, and is presented in Appendix B.

1. The Response Sheets in each grade were sorted into the four Category Cells: Urban-Male, Urban-Female, Rural-Male, and Rural-Female.
2. The Response Sheets were edited for the following:
   a. Response Sheets with serious reading difficulty due to penmanship were eliminated.
   b. Response Sheets with no sex identification or no grade level identification were eliminated.

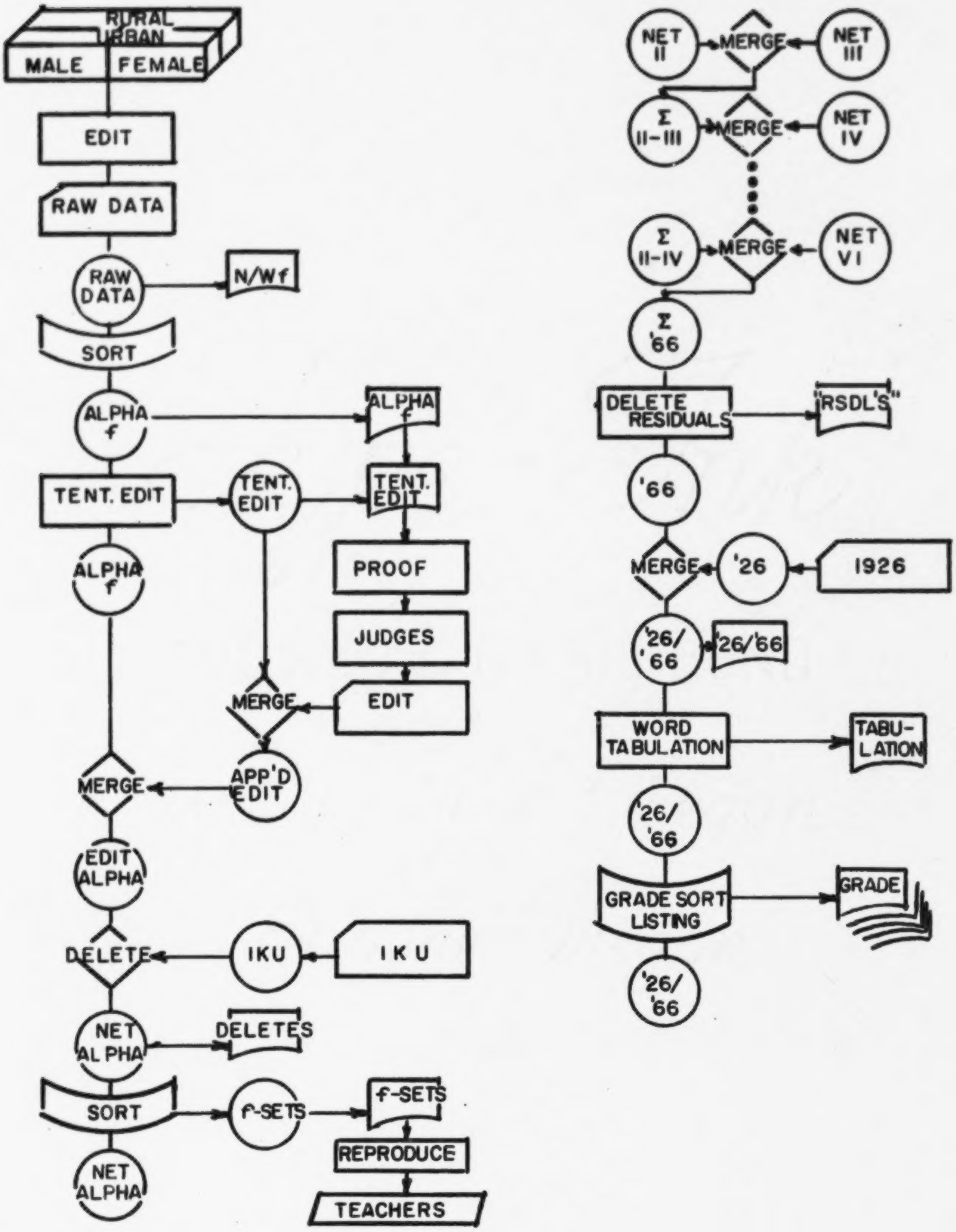
RURAL
URBAN
MALE
FEMALE
EDIT
RAW DATA
RAW DATA
N/Wf
SORT
ALPHA f
ALPHA f
TENT. EDIT
TENT. EDIT
TENT. EDIT
ALPHA f
PROOF
JUDGES
MERGE
EDIT
MERGE
APP'D EDIT
EDIT ALPHA
DELETE
IKU
IKU
NET ALPHA
DELETES
SORT
f-SETS
f-SETS
REPRODUCE
NET ALPHA
TEACHERS
NET II
MERGE
NET III
Σ II-III
MERGE
NET IV
Σ II-IV
MERGE
NET VI
Σ '66
DELETE RESIDUALS
"RSDL'S"
'66
MERGE
'26
1926
'26/'66
'26/'66
WORD TABULATION
TABULATION
'26/'66
GRADE SORT LISTING
GRADE
'26/'66

FIGURE 4

OPERATIONAL FLOW CHART OF DATA PREPARATION AND PROCESSING

Data Processing

The computer processing was on an IBM 360, model 30, using a Disc Operating System. The program for putting the raw data on the tapes from data punch-cards was in Assembly Language. All other programs were in Common Business Oriented Language (COBOL).

Each grade was treated separately through most of the processing. Procedures 1 through 14 are in terms of one grade and were repeated for each grade. The remaining procedures included the grades indicated.

1. Data cards were punched from the Response Sheets remaining after the Data Preparation phase. The key-punchers were instructed to: (a) exclude abbreviations and contractions, (b) correct spelling only if they were certain of the word intended, and (c) enter the word as it appeared when in doubt of the spelling. This key-punching involved approximately 510 man hours.

2. The data cards were read onto magnetic tape by computer. This tape was identified "Raw Data".

3. The first computer output was the "N/Wf" print-out. This was the count of students, running words written by each student, and total number of running words written.

4. The words were alphabetically sorted from the "Raw Data" tape and recorded with their frequencies on the "Alpha-f" tape. A print-out was made of the tape.

5. The "Alpha-f" tape was read by a "Tentative Edit" program. This program read each entry and proposed changes according to the word endings:

Ending	Proposal
's'	drop 's'
'es'	drop 'es'
'ies'	change to 'y'
'est'	drop 'est'
'ing'	drop 'ing'

The 'er' ending was left as most of its occurrences were not in the superlative form. A print-out and a tape were made and identified as "Tentative Edit".

6. The "Alpha-f" print-out was proofed in regards to the tabulation criteria and for spelling errors. The "Tentative Edit" print-out was proofed for acceptance, modification, or rejection of the proposed edits. Misspellings were referred to three judges when the spelling could not be corrected with absolute certainty. The word intended was be determined by consensus of the judges.

7. Four types of "Edit Cards" were made from the proofed print-outs:

   a. Correct the spelling of an entry in the "Alpha-f" tape,
   b. Eliminate an entry in the "Alpha-f" tape,
   c. Correct a proposed edit entry in the "Tentative Edit" tape.
   d. Eliminate a proposed edit entry in the "Tentative Edit" tape.

This key-punching required approximately fifty man hours.

8. The "Edit Cards" were merged with the "Tentative Edit" tape to form the "Approved Edit" tape.

9. The "Approved Edit" tape was merged with the"Alpha-f" tape to form the "Edited Alpha-f" tape. This contained the words in the proper forms for the study.

10. The International Kindergarten Union words were key-punched and put on magnetic tape in a similar manner as the raw data. This required approximately six man hours, including corrections.

The International Kindergarten Union words were eliminated from the "Alpha-f" tape by merging the "IKU" and "Edited Alpha-f" tapes. The products of this merge were the "Net Alpha" tape and the "IKU-f" print-out which listed the words removed and their frequencies.

11. The words on the "Net-Alpha" tape were sorted into sets of identical frequency. Alphabetical order was retained within each set. A print-out of the Frequency Sets was produced and identified "f-Sets".

12. The Frequency Sets were reproduced without their frequencies as separate word lists from the "f-Set" print-out. These lists were mailed to over thirty teachers in Washington and Oregon. These teachers were in regular classrooms of the same grade level from which the sample words were taken, and had been identified by their administrators as highly successful in the teaching of reading and spelling. The teachers were asked to read the several word lists they had received and select one that they felt best illustrated, without any modification, the vocabulary achievement of their particular grade. Samples of the materials used in this phase are presented in Appendix C.

13. Twenty teacher responses, evenly divided between Western Washington and Western Oregon, were drawn from the returns. The Frequency Set selections made by the twenty teachers were tabulated for that grade.

14. The tabulations of the five grades were compiled. The Frequency Set most often selected by the one hundred teachers was

the frequency of three. This frequency became the Criterion Frequency for grade placement.

15. The "Net-Alpha" tapes from the five grades were merged in a process that: (1) carried words with a frequency less than Criterion upward in grade level and added frequencies when the same word occurred, (2) removed any word already grade placed in a lower grade, and, (3) put all the words in alphabetical order with their grade level. The remaining f1 and f2 words were removed and listed on a print-out identified "Residual". The final product tape was identified "1966".

16. The 1926 words, grades second through sixth, were put on data cards and then on magnetic tape with their grade levels in the same way as the original raw data. The key-punching required six hours. The tape was identified as "'26 Master".

The "'66 Master" and "'26 Master" tapes were merged by a program that listed the words in alphabetical order and also listed the grade placement of the word. The 1926 and 1966 grade placements were in separate columns. A zero was placed in the year's column if the word was not grade placed in that year. The product tape and print-out were identified as "'26/'66 List".

17. The "'26/'66 List" tape was run through a program that tabulated and listed the number of common words, number of 1966

and 1926 unique words, number of words that moved downward, upward, and remained in grade level. The print-out was identified "Word Tabulation".

18. The final program was the listing of the 1966 separate grade level lists from the "'26/'66 List" tape.

19. The print-out "N/Wf" was used to develop the data describing the Sample, the distribution of student performances, and the total number of running words. The numbers of words written by each student were recorded on a grouped-data interval scale. The mean, median, mode, and standard deviation were computed from this. The print-outs "Alpha-f" were used to count the total number of different words written. The "Word Tabulation" print-out was used to determine number of grade-placed words. The "Residual" and "IKU-f" print-outs were used to determine the number of words not grade placed. The "Word Tabulation" print-out was used to determine the number of words unique of each year and common of both years, and number of words that moved downward and upward in grade placement.

Data Analysis

The number of grade placed words and the number of unique words were tabulated for both the 1966 and 1926 lists. The numbers of 1966 unique words, 1926 unique words, and words common to both lists were added to determine the number of grade placed words in the merged list.

The number of 1966 unique words was converted to its percent of the 1966 list and its percent of the merged list. The statistical significances of these percents were tested by computing the Critical Ratios between each percent and its standard error. The interpretation was at the (.01) level. These procedures were repeated with the 1926 list.

The numbers of 1966 unique words and 1926 unique words were added and the sum was converted to its percent of the merged list. The significance of this percent was tested by the Critical Ratio between the percent and its standard error. The interpretation was at the (.01) level.

The numbers of words that remained the same, moved downward, and moved upward in grade placement from 1926 to 1966 were tabulated. The sum of these counts was the number of common words. The numbers of words that shifted in each direction and their total were converted to percents of the common word total.

The statistical significance of these three percents were tested by their Critical Ratios and interpreted at the (.01) level.

The percents of the two grade-placement shifts were compared for statistically significant difference and interpreted at the (.01) level.

The formulas used are presented in Appendix D.

Data Presentation

The "Grade-level Lists" and "'26/'66 List" print-outs were cut and mounted for reduction-photo processing. The "Grade-level Lists" are presented in Appendix E. The "'26/'66 List" was identified as "Master List" and is presented in Appendix F.

The grade level lists are also available in a publication of the Oregon School Study Council, School of Education, University of Oregon.

CHAPTER IV

PRESENTATION AND DISCUSSION OF THE FINDINGS

The descriptive data of the study results are presented in several tables within each discussion topic. The discussions include comparisons with the original Free-Association Word Study by Dolch. The formulas used in computing the statistical analyses are presented in Appendix D.

Words Obtained, Removed, and Grade Placed

The first column of numbers in Table 8 (page 91) includes the various word totals obtained in the 1966 study. The 8,506 students wrote a total of 849,157 running words from which 9,045 different words were listed. This represented a type-token ratio of 1 : 93.88. From the 9,045 different words, 1,715 were removed that were already listed on the International Kindergarten Union List and 2,820 were removed that still had frequencies less than the Criterion Frequency after being merged upward through the grades. The remaining 4,510 words were grade placed. The final type-token ratio of grade placed words was 1 : 121.76.

TABLE 8

COMPARISONS OF DIFFERENT WORDS OBTAINED, REMOVED, AND GRADE PLACED*

	1966 II - VI	1926 II - VI	1926 II - VIII
Number of Students	8,506	16,813	21,695
Total Running Words	849,157	1,828,565	2,714,857
Total Different Words	9,045		12,622
Type-Token Ratio	1:93.88		1:215.09
IKU Words Removed	1,715		1,759
Words with f<C Removed	2,820		2,481
Total Grade Placed Words	4,510	4,924	9,520
Type-Token Ratio of G.P. Words	1:121.76	1:371.39	1:285.17

*Buckingham and Dolch reported 4974 words were grade placed in grades two through six. The figure shown here is from the computer tabulation performed during the merging of the 1966 and 1926 lists.

The only 1926 totals available that are specifically related to the second through sixth grades are the 16,813 students, the 1,828,565 running words, and the 4,924 grade placed words shown in the second column of figures in Table 8. This writer computed the grade placed type-token ratio of 1 : 371.39. The 1926 total of grade placed words in this column is not from the Buckingham-Dolch publication.[1] They reported 4,974 words were grade placed; the tabulation performed by the computer during the merging of the 1966 and 1926 lists recorded 4,924 words.

The third column of Table 8 includes the word totals for the whole 1926 study, this includes the seventh and eighth grades. The 21,695 students wrote 2,714,857 running words from which 12,622 different words were listed. The type-token ratio was 1 : 215.09. One thousand, seven hundred fifty-nine IKU words were removed and 2,481 words with frequencies less than Criterion Frequency were removed. There remained 9,520 words that were grade placed. The grade placed type-token ratio was 1 : 285.17.

The number of comparisons between the 1966 and 1926 second through sixth grade lists was limited by three missing totals from the 1926 study: (1) the number of different words obtained, (2) the number of IKU words removed, and (3) the number of words with frequencies less than Criterion Frequency. The three totals that were reported for the first five grades revealed a 49.41% reduction of population, a 53.56% reduction of running words, and an 8.4% reduction of grade placed words from 1926 to 1966. The 1926 grade placed type-token ratio was slightly over three times greater than its 1966 counterpart.

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[1] Burdette R. Buckingham and Edward W. Dolch, A Combined Word List (New York: Ginn and Company, 1936), p. 12.

Common and Unique Grade Placed Words

The term "common word" is frequently used in vocabulary research where comparisons are made or where there is more than one source of the word. For the purposes of this study, the term was used to identify a word that was grade placed on the 1966 and the 1926 lists.

The term "unique word" was used to identify a word that was grade placed on only one of the two lists. When further identification was necessary, the term was accompanied by the source list's date in the following manner: "1966 unique words".

The various data for the following discussion are presented in Tables 9 and 10 (page 94).

The 1966 list consisted of 4,510 different grade placed words (Table 9) and the 1926 list consisted of 4,924 different grade placed words. The two lists, when merged, totaled 6,465 different words,

TABLE 9

UNIQUE AND COMMON GRADE PLACED WORDS

1966 Grade Placed Words:	4510
1926 Grade Placed Words:	4924
1966/1926 Merged Lists:	6465
1966 Unique Words:	1541
1966/1926 Common Words:	2969
1926 Unique Words:	1955

TABLE 10

STATISTICAL DATA OF THE UNIQUE WORDS OF THE 1966 AND 1926 LISTS

Unique Words			Source List		Standard Error of the Percent	Critical Ratio of the Percent
List	N	%	Date	N		
1966	1541	34.17	1966	4510	.0071	4812.67
1926	1955	39.70	1926	4924	.0070	5671.43
1966	1541	23.84	Merged	6465	.0055	4334.55
1926	1955	30.24	"	"	.0057	5305.26
Merged	3496	54.08	"	"	.0062	8722.58

(.01 = 2.98)

with 1,541 unique words from the 1966 list, 2,969 words common to both lists, and 1,955 unique words from the 1926 list.

The data related to the statistical measures of the percents of unique words are presented in Table 10 (page 94). The 1966 study had 1,541 unique words which were 34.17% of the 1966 list's 4,510 grade placed words. The standard error of this percent was .0071, and the resulting critical ratio of the percent was 4812.67.

The 1926 study had 1,955 unique words which were 39.70% of their source list's 4,924 grade placed words. The standard error and the critical ratio of the percent were .0070 and 5671.43.

The 1966 list's 1,541 unique words were 23.84% of the two lists' merged total of 6,465 grade placed words. The standard error of this percent was .0055 and the critical ratio was 4334.55.

The 1926 list's 1,955 unique words were 30.24% of the merged lists' 6,465 different grade placed words. The obtained standard error and critical ratio were .0057 and 5305.26.

The merged lists' total number of unique words was 3,496. This was 54.08% of the merged lists' 6,465 grade placed words. The standard error of the percent was .0062 with a critical ratio of 8722.58.

By these measures in percent, each group of unique words was compared to its source list and to the merged source lists; and, the total number of unique words was compared to the merged source lists. All critical ratios of the percents were significant beyond the (.01) level.

Grade Level Shift of Common Words

The data describing the 1966 and 1926 grade level distributions reveal a total of 2,969 common words (Table 11, page 97). There were 523 common words placed in the 1966 second grade, 144 of these words came from higher grade levels and 379 words remained at grade level, that is, they were in the 1926 second grade, also. For the specific distribution of the 523 words, 379 came from the 1926 second grade, 75 came from the 1926 third grade, 30 came from the 1926 fourth grade, 28 came from the 1926 fifth grade, and 11 came from the 1926 sixth grade.

There were 600 common words placed in the 1966 third grade, 450 of these words shifted from other grade levels, 282 moved up from the second grade of 1926, and 168 moved down from the higher grades of 1926. One hundred fifty words remained at grade level. Reading further, of the 600 common words placed in the 1966 third grade, 282 came up from the 1926 second grade, 150 remained in the third grade, 70 came down from the 1926 fourth grade, 62 came down

TABLE 11

GRADE LEVEL DISTRIBUTIONS OF 2969 WORDS COMMON TO 1966 AND 1926 LISTS

		Total	Shift Grade Level	Moved Up	Moved Down	Remained at Grade Level	1926 Grade Placements				
							II	III	IV	V	VI
	II	523	144		144	379	379	75	30	28	11
1966	III	600	450	282	168	150	282	150	70	62	36
Grade	IV	634	505	317	188	129	133	184	129	110	78
Placements	V	633	481	377	104	152	67	145	165	152	104
	VI	579	419	419		160	37	87	111	184	160
Totals		2969	1999	1395	604	970	898	641	505	536	389

Table to be Read: In the 1966 third grade, there were 600 common words; 450 words came from other grade levels in 1926, 282 moved up from the lower grade and 168 moved down from the higher grades. 150 words remained at grade level from 1926 to 1966. The specific grade level distribution of the 600 words was: 282 came from the 1926 second grade, 150 from the 1926 third grade, 70 from the 1926 fourth grade, 62 from the 1926 fifth grade, and 36 from the 1926 sixth grade.

TABLE 12

STATISTICAL DATA OF THE SHIFT IN GRADE PLACEMENT OF THE 2969 COMMON WORDS BETWEEN 1926 AND 1966

	N	%	SE%	Critical Ratio
Total Shift	1999	67.33	.0086	7829.00
Upward	1395	46.99	.0091	5161.47
Downward	604	20.34	.0074	2756.10
Difference	791	26.65	.6133	43.46

(.01 = 2.98)

from the 1926 fifth grade and 36 came down from the 1926 sixth grade.

An examination of the totals (Table 11) reveals that there were 2,969 common words, with 1,999 changing grade levels. Of the 1,999 words that shifted, 1,395 shifted placement to a higher grade and 604 shifted to a lower grade from 1926 to 1966. The totals in the grade-level distributions show that 898 of the common words were in the 1926 second grade, 641 were in the 1926 third grade, 505 were in the 1926 fourth grade, 536 in the 1926 fifth grade, and 389 were in the 1926 sixth grade. The statistical data measuring the percents of the grade level movements and their significance are presented in Table 12 (page 97). The 1,999 total number of words that shifted grade levels was 67.33% of the 2,969 common words. The standard error of this percent was .0086 with a resulting critical ratio of 7829.00. The 1,395 words that moved upward were 46.99% of the 2,969 common words. The standard error and the critical ratio of this percent were .0091 and 5161.47. The 604 words that moved downward in grade level were 20.34% of the 2,969 common words. The standard error of the percent was .0074 and the critical ratio was 2756.10.

The differences between number and percent of words moving upward and downward in grade level were 791 words and 26.65% in favor of the upward movement. The standard error of this percent was .6133 and the critical ratio was 43.46.

All four critical ratios were significant beyond the (.01) level.

Grade Placement Criterion

The Frequency Set Lists most often selected in all grades were those lists of words with frequencies of three. Of 200 randomly drawn, 108 teachers selected the f3 lists. One-half of the teachers were from Western Oregon and one-half from Western Washington. Buckingham and Dolch reported the selection of the frequency of two, except in the second grade where the frequency of three was applied. They described their judges as the authors and their assistants.[2]

Student Performances

The purpose of this study was not to compare students, but to compare lists of words. The statistical descriptions and related discussions of the students' performances are presented, however, in response to the frequent criticism that vocabulary research lacks sufficient description of subjects and source material.

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[2] Buckingham and Dolch, A Combined . . . , p. 10.

Significance of "Running Words"

The term "running words" in this study does not have the same implications as found in most other studies. This difference is significant in considering the descriptions of the student performances. The number of running words refers to all of the words written by a student, in this study and all others. The number of different words is the total when a word is counted only at its first occurrence. The number of different words is usually much less than the number of running words since the source data is in essay or verbatim form. In this study, however, different words and running words are of the same number, in theory at least, since the student was asked to make a list. A word was found twice on a student's list on rare occasion.

The significant implications are that mean performance reflects more of vocabulary knowledge than expository ability and that comparisons with other research regarding student performances are not valid unless the data creation or results are similar.

Distributions of 1966 Student Performances

The total number of running words obtained was 849, 157 (Table 13, page 101). The 1, 736 second grade students produced 102, 870 running words, with a mean of 56. 7, a median of 52. 55, and a mode of 44. 25 words per student.

TABLE 13

STATISTICAL DESCRIPTION OF STUDENT PERFORMANCES

	Grades					Total
	Second	Third	Fourth	Fifth	Sixth	
Number of Students	1,736	1,672	1,659	1,745	1,694	8,506
Total Running Words	102,870	132,186	173,109	207,257	233,735	849,157
Words Per Student						
Average	59.26	79.06	104.35	118.77	137.98	
Mean	56.70	80.80	102.78	116.92	137.90	
Median	52.55	76.77	102.83	101.00	138.41	
Mode	44.25	68.71	102.93	109.50	149.50	
Standard Deviation	14.09	37.80	38.00	50.50	48.64	
Range	3-234	3-240	8-268	7-315	5-381	
Skewness	6.83	7.85	-.85	4.49	-3.85	
Kurtosis	.2240	.2421	.2547	.2362	.2574	

The 1,672 third grade students, 64 less than in the second grade, wrote 132,186 running words. Their mean performance was 80.8, with a median of 76.77 and a mode of 68.71.

A comparison of the second and third grades indicates that with a 3.7% reduction of student number, the number of running words increased 28.50%, and the increase of mean performance was 42.5%. The difference between means was 24.1 words.

The 1,659 students in the fourth grade wrote 173,109 running words. Their mean performance was 102.78 words with a median of 102.83 and a mode of 102.93. The increase of running words from third to fourth grade was 30.96% with a reduction of .8% in sample size. The 21.98 word difference of mean performance was an increase of 27.2%.

The 1,745 fifth grade students wrote 207,257 running words, with a mean performance of 116.92 words and a median and mode of 101 and 109.5. This was an increase of 5.18% over the fourth grade in population, 19.73% in number of running words, and 13.76% in mean performance. The difference of mean performance was 14.14 words.

The 1,694 sixth grade students wrote 233,735 running words. Their mean performance was 137.90 words with a 138.41 median and 149.5 mode.

The reduction of population from fifth to sixth grade was 2.92% with an increase of running words of 12.78%. The difference between means was 20.98 words or 17.94% increase.

The mean performances increased up through the grades, while the differences between the means decreased successively until the fifth-sixth grade comparison. This difference between means was greater than the difference between the fourth and fifth grade mean performances. All differences of mean performances were significant beyond the (.01) level.

Further consideration of the distribution of student performances reveals an increase of the standard deviations up through the grades except between the fifth and sixth grades. The largest increase is from 14.09 to 37.8 between the second and third grades. An increase of the standard deviation was expected since it was assumed that the low performance extremes would move upward more slowly than the high extremes. This is further clarified by observing the increase and shift of ranges of performances through the grades.

The range of the performances was from 231 words in the second grade to 376 words in the sixth grade. The low performance extreme moved upward only by five words and the highest low-extreme occurred in the fourth grade. The high extreme performance moved consecutively upward through the grades, from 234 in the second to 381 in the sixth, an increase of 147 words.

All five distributions are significantly skewed at the (.10) level. No consistent pattern of skewness appears through the grades. The fourth and sixth grades are negatively skewed at -.85 and -3.85. The other three grades are skewed in a positive direction, 6.83, 7.85, and 4.49, upward. All five curves are leptokurtic (less than .26315). The second grade is significant at the (.02) level and the fifth grade is significant at the (.10) level.

Comparisons of 1966 and 1926 Student Performances

Sample size, running words, and average running words per student were used for the comparison of the 1926 and 1966 student performances. No other measures were presented by Dolch.

The difference in sample size and the consistent reduction of performance scores, described below, caused concern regarding this study's validity for making comparisons. For this reason, ungrouped raw score correlations were computed of the following five factors from the descriptive data obtained in the five grades: (1) the grade levels, (2) the reductions of sample sizes in the grades, (3) the reductions of running words in the grades, (4) the differences within the grades between the reduction of sample size and the reduction of running words, and (5) the reductions of average words per student through the grades. Except for the first factor, the descriptive data are in percents.

The descriptive data for sample size, running words, and average running words per student are presented in Table 14 (page 106). The obtained correlations are presented in Table 15 (page 107).

Totals and Reductions of Sample Sizes. The total column of Table 14 indicates there were 16,813 students, second through sixth grade in the 1926 study and 8,506 students in the 1966 study. There was a difference of 8,307 students, or, a reduction of 49.41% from the 1926 to the 1966 samples.

It was not intended to achieve the same sample size in the second grade as did Dolch, but rather to have a sampling of approximately 2,200 students in each grade. This would have resulted in an overall size difference of approximately 5,300 students, primarily within the second grade. The loss of subjects described in Chapter III (page 77) increased the difference to 8,307 students. Most of the difference, however, did occur in the second grade. There were 7,560 second graders in the 1926 study and 1,736 in 1966. This was 5,824 less students, or, a reduction of 77.04%. The reductions of sample sizes in the other grades varied from approximately 24% to 29%.

TABLE 14

COMPARISONS OF 1926 AND 1966 SAMPLES AND PERFORMANCES

	GRADES					TOTAL
	Second	Third	Fourth	Fifth	Sixth	
Sample Size						
1926	7,560	2,208	2,350	2,335	2,360	16,813
1966	1,736	1,672	1,659	1,745	1,694	8,506
Difference	5,824	536	691	590	666	8,307
per cent	77.04	24.28	29.40	25.27	28.22	49.41
Running Words						
1926	551,880	198,720	329,000	361,925	387,040	1,828,565
1966	102,870	132,186	173,109	207,257	233,735	849,157
Difference	449,010	66,534	155,891	154,668	153,305	979,408
per cent	81.36	33.48	47.38	42.73	39.61	53.56
Average Words						
1926	73	90	140	155	164	
1966	59	79	104	119	138	
Difference	14	11	36	36	26	
per cent	19.18	12.22	25.71	23.23	15.85	

TABLE 15

CORRELATIONS OF PERCENTS OF SAMPLE, RUNNING WORD, AND AVERAGE REDUCTIONS, DIFFERENCES OF REDUCTIONS, AND GRADE LEVELS

		2	3	4	5
1	Grade Levels	-.6763	-.6083	.7077	.1427
2	Reductions of Sample Size		.9764	-.7608	.0287
3	Reductions of Running Words			-.6031	.2440
4	Differences of SS and RW Reductions				.5913
5	Reductions of Average Words per Student				

df = 3 (.01 level = .9590; .05 level = .8780)

The numbers across the top-right of the table coincide with the numbers down the left side, so that the table is read: "Grade Levels had a correlation of -.6763 with item 2, the Reductions of Sample Size."

Totals and Reductions of Running Words. The 1926 total number of running words, again from Table 14, was 1,828,565 and the 1966 total was 849,157. This created a difference of 979,408 running words; a reduction of 53.56%. The reductions within the grades ranged from 66,534 words, 33%, in the third grade to 449,010 words, 81.36%, in the second grade.

Relationships of the Reductions of Sample Size and Running Words. There were three expectations regarding the reduction of sample size and the reduction of running words. First, the reduction of sample size would reduce the total number of running words. Second, the percents of the two reductions would appear numerically similar within each grade. That is, if within a grade the sample size was reduced 10% the running words total would be reduced approximately 10%; and, if in the next grade the sample size was reduced 20%, the running words would be reduced approximately 20%. Third, when differences did exist between the two reduction percents, they would reflect a relationship with some other factor.

A correlation measurement (Table 15) revealed that a significant relationship of .9764 existed between the percents of reduction of sample size (item 2) and reduction of running words (item 3). Comparisons of the two reduction percents, sample size and running words, revealed no numerical similarity.

The reduction percent of running words was greater than the reduction percent of sample size in all five grades. The differences between the two percents were approximately 4%, 9%, 16%, 18%, and 12%, in grade order. There were no significant relationships of the differences (item 4) with the four other factors in the correlations: grade levels (item 1), reductions of sample size (item 2), reductions of running words (item 3), and reductions of averages (item 5). The highest correlation obtained was -.7608 with reductions of sample size (item 2), followed by .7077 with grade levels (item 1).

Averages and Reductions of Running Words Per Student. The 1966 averages of running words per student were less than those of 1926, in all five grades (Table 14). The second grade averages were 73 words per student in 1926, and 59 words per student in 1966, a reduction of fourteen words, or 19.18%. The third grade averages of words per student were 90 in 1926 and 79 in 1966, a reduction of 11 words, or 12.22%. The fourth grade averages of words per student were 140 and 104 in 1926 and 1966. The fifth grade averages were 155 and 119. Both grades had reductions of their averages by 36 words which represented 25.71% in the fourth grade and 23.23% in the fifth grade. The 1926 and 1966 sixth grade averages of words per student were 164 and 138. This represented a reduction of 26 words, or 15.85%.

Relationships of the Reductions of Running Words Per Student. The obtained correlations between the reduction percents of the average running words per student and the four other factors (grade levels, reduction percents of sample size, reduction percents of running words, and differences of the sample size and running word reduction percents) indicated that no significant relationships existed. In fact, for each of the other four factors, the lowest obtained correlation was with the reduction percents of the average running words per student. Of primary concern was the possible relationships between reductions of average running words per student and the reductions of sample size and running words. The obtained correlations were .0287 with reductions of sample size and .2440 with reductions of running words.

Summary of the Relationships of the Reductions. The consistent reductions of the several student performance measures from 1926 to 1966 motivated this writer to compute correlations among five factors. These factors were (1) grade levels, (2) reductions of sample size, (3) reductions of running words, (4) differences between reductions of sample size and reductions of running words, and (5) reductions of average running words per student.

Only one significant relationship was revealed, and it was expected; the relationship between reductions of sample size and reductions of running words.

The concern of this writer was to determine if there was some factor within the study that was related to the reductions of average words per student. No significant relationships were discovered. The highest correlation of reductions of averages was with the differences between reductions of sample size and reductions of running words. The lowest correlation obtained was with reductions of sample size.

CHAPTER V

SUMMARY AND CONCLUSIONS

Purpose of the Study

The primary purpose of this study was to measure the reliability of the Buckingham-Dolch Free-Association Word Study and thus determine the present-day validity of the Free-Association Word List. The secondary purposes were to determine the necessity for further replicative research, provide a pilot-study for certain research methods, obtain data for future research, and to obtain a vocabulary list for classroom use.

Population Studied

The population consisted of 8506 students, second through sixth grades, drawn from six school districts located on the Willamette River Plain. All of these students were enrolled in regular classrooms.

Procedures

The classroom teachers administered the Response Period. The students were asked to think of and list all the different words that came to mind, for a period of fifteen minutes. The words from the students' Response Sheets were key-punched onto data cards and then recorded onto magnetic tape. Computer programs were used to measure pupil performances, alphabetize the words, and count frequencies. Additional programs edited the words into tabulation forms, removed International Kindergarten Union words, and sorted the words into groups of identical frequencies. Classroom teachers from western Oregon and Washington selected the frequency of three as minimum grade placement criterion. Computer processing assigned grade placements, carried words with less than Criterion Frequency upward through the grades, and deleted duplicate word listings from the higher grades.

The 1966 and 1926 lists were merged and the grade level distributions of the words were tabulated. The two lists were compared by the tabulations for percent of words unique of each list and the shift in grade levels by the words. The statistical significance of the percents were determined by the critical ratios of the percents.

Summary of the Findings

Obtained Words. The number of different words obtained was 9,045 from 849,157 running words. The type-token ratio was 1 : 93.88. There were 1,715 International Kindergarten Union words and 2,820 words with frequencies less than three that were removed. The remaining grade placed words totaled 4,510. Only the totals of running words and grade placed words could be compared to their 1926 counterparts and they were less than the 1926 totals. All other 1926 totals included seventh and eighth grade performances.

Unique Grade Placed Words. The 1966 list contained 4,510 different grade placed words and the 1926 list contained 4,924. The two lists contained 6,465 different words when merged. There were 1,541 unique words from the 1966 list. They represented 34.17% of the 1966 list and 23.84% of the merged lists. The 1,955 unique words from the 1926 list were 39.70% of the 1926 list and 30.24% of the merged lists. The total number of unique words was 3,496, 54.08% of the merged lists. All of these percents were significant beyond the (.01) level.

Grade Level Shift of Common Words. There were 1,999 words that changed grade level of the 2,969 common words. These represented 67.33% of the common words. Six hundred four words, 20.34%

of the common words, moved downward in grade level and 1,395 words, 46.99% of the common words, moved upward. All of these percents were significant. The difference between the two directional percents was 26.65% in favor of the upward movement of words. This difference was statistically significant.

Grade Placement Criterion. The 1926 grade placement criterion was a frequency of three in the second grade and a frequency of two in all other grades. In 1966, one hundred teachers selected the frequency of three as the minimum grade placement criterion.

Student Performance. The sample was approximately 25% less than the 1926 sample throughout the grades, except in the second grade where the reduction was 77%. The running word reduction percents were greater than the sample size reduction percents in all grades. The average numbers of words written by students were less than the 1926 averages in each grade. The only statistically significant relationship among the reductions was between the sample size and running words reductions.

Conclusions

The following conclusions have been drawn from the data of this study. The conclusions are preceded by the relevant hypothesis and followed by descriptions of necessary interpretations and any assumptions.

Unique and Common Grade Placed Words. The data of this study supports the rejection of the hypothesis: "There is no significant percent of unique words in the 1926 or 1966 lists." The 1926 Free-Association List possesses a low degree of representativeness of 1966 students' vocabulary, in terms of list content. The high percent of words found only in 1926 and only in 1966 direct toward this conclusion.

The necessary interpretation for this conclusion is that the presence of certain words on one list and the absence of the same words on the other list indicate a difference of vocabulary knowledge between the two samples to some proportional degree.

The assumption of the conclusion is that the high percent of unique words would not reoccur if the sociological differences, that are regional and historical in nature, were erased or diminished in a replication of the 1966 study.

Grade Level Shift of Common Words. The data of this study supports the rejection of the hypothesis: "There is no significant percent of common words that changed grade placement between the 1926 and 1966 studies." The 1926 Free-Association List possesses a low degree of representativeness of 1966 students' vocabulary, in terms of achievement, or, grade placement. The high percent of common words that changed grade level directs toward this conclusion.

The necessary interpretation for this conclusion is that the frequency of a word's usage among students reflects the degree of vocabulary achievement of a group.

The necessary assumption for the conclusion is that the selections of the criterion frequencies for grade placement were comparable in terms of criteria for selection and expertise of the judges.

Student Performances. The 1966 sample students knew fewer different words than did the students of the 1926 sample population. The lower averages of words per student found in the 1966 study direct toward this conclusion.

More students knew the same word in 1966 than in 1926. The 49% reduction of sample size, the higher Criterion Frequency, the 8.4% reduction of grade placed words of the 1966 study and the three times greater type-token ratio of grade placed words from the 1926 study direct towards this conclusion.

The 1966 sample students' vocabulary achievement was later than that of the 1926 sample students' achievement. The high percent of words that moved upward in grade level and the statistically significant difference between the directional percents in favor of the upward movement direct toward this conclusion.

The interpretation necessary for the first conclusion is that the difference in sample sizes did not influence the reductions in student performances. Statistical measures seemed to indicate that the reduction of sample size could not account for the reductions of average words per student.

The necessary interpretations for the second conclusion are that (1) the 49% reduction of sample size and the higher Criterion Frequency of 1966 would make it more difficult for a word to be grade placed, (2) the aforementioned would cause a large reduction of grade placed words and a large type-token ratio of grade placed words, and (3) the small reduction of grade placed words and the smaller type-token ratio indicate that a counter-acting influence occurred which could only be more students writing the same words.

The necessary interpretations for the third conclusion are that the lesser number of running words that might produce criterion frequencies more slowly and the higher criterion frequency were counter-acted by the smaller type-token ratio, thus equating the two samples.

An assumption exists for the third conclusion that the selections of the criterion frequencies were comparable in terms of criteria for selection and expertise of the judges.

The basic assumption in all three conclusions is that the task of Free-Association listing does reflect children's vocabulary knowledge and achievement in some proportional way.

Validity of the 1926 Free-Association Vocabulary List. The final conclusion is a summation and is directed by the previous conclusions and their evidence. The 1926 Free-Association List is no longer representative of current students' vocabularies in terms of list content, grade-level assignment, and student performance. This conclusion may be generalized to other vocabulary research of the same time to the degree that their results are similar to the 1926 study and it may be generalized to other student populations to the degree that they are similar to the 1966 sample population.

Implications for the Educator

Validity of Vocabulary Lists

The implications for the educator that were specifically the concern of this study were those regarding vocabulary lists. Most of the vocabulary studies that have had large influence upon instruction were conducted in the same period of time as was the Buckingham-Dolch Free-Association Word Study. The question occurs, how valid are those lists for representing student achievement and how appropriate are they for determining instructional programs? The safest assumption may be that the greatest percent of these lists' content is not representative or appropriate, to the degree that the lists are similar to the 1926 Free-Association Study's results. Furthermore, all their descendant lists, research, and materials are proportionally in question. The educator should rely less on the data of those studies and more upon his own resources if similarities among the lists are revealed. He might do well to replicate the studies within his own school community, until more extensive research is available.

Student Performances

The results of this study that probably have greater impact upon the educator are those that indicated the 1966 students knew fewer words than the students of 1926. The definition of "know" and the students' behaviors for this study are crucial to this discussion, for within them is an unknown quantity: to what degree did each element of "know" influence a student's response? The student may have possessed several meanings of a word, been able to recognize it in print, but not have had sufficient confidence in spelling to list the word. Or, he may have been able to spell the word correctly, but not have had adequate meanings or sufficient associations to recall the word.

The 1966 students may actually have known more words by one of the elements of "know," but by the total definition of "know," used in this study, it must be said they knew less. This differentiation of the elements of "know" will reoccur in further discussion.

The first question to be considered in this discussion is: what might be the reasons for the reduction of student performances? A detailed review of some of the methodology literature of the 1920's and 1930's contrasted with current writings might reveal or suggest answers. Marion Fitzgerald, for example, wrote in 1929, that there should be talks by the teacher about expressive words and readings of selections by masters of expression. She recommended that too much time was being spent in interpretation, more should be given to memorizing passages. She recommended further that (1) there be frequent recitations of memorized passages, (2) students memorize at least twenty proverbs, (3) spelling lessons and lists be centered around a topic, (4) short quotations be presented with the spelling words, and (5) composition assignments be preceded by vocabulary lessons.[1]

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[1] Marion Fitzgerald, "Vocabulary Building in Grammar Grades," Normal Instructor and Primary Plans, 38:55-56, May, 1929, p. 55.

Alma Groskopf recommended in 1927, that (1) there be specific vocabulary lesson periods, (2) several sentences be presented for each word, (3) special lessons be held on expressions of words, and (4) emphasis be on literary vocabularies.[2]

These suggestions encompass all elements of this study's definition of "know" and most of them seem to contrast with current practice. It should be kept in mind, however, that the reduction of performances may be related to just one of the contrasting practices and through only one of the elements of "know."

What is a more obvious and may be a greater influence upon student performances is the development and increased usage of vocabulary control. This influence may be from the spelling or reading programs, or both.

The second question is: are greater student performances desirable and necessary? We may be in a more communicative society than existed in 1926, but we might actually be saying more, more frequently, with fewer words. Today's student vocabularies, therefore, may be smaller in size but more functional in terms of topical and regional utility. The fact that more students wrote the same words may indicate this.

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[2] Alma Groskopf, "Vocabulary Building in the Fifth Grade," Normal Instructor and Primary Plans, 36:34, 90-91, September, 1927, pp. 34, 90.

Implications for the Researcher

There is a need for immediate replication of this study in the same geographical region and in others. The purposes of such studies would be: (1) to determine what additional words exist with equal achievement, (2) to definitely determine the degree of influence of sample size, (3) to establish norms of variance among replicative vocabularies, (4) to provide regional vocabularies and estimates of their differences, and (5) to provide a national core vocabulary. This latter purpose seems of rising importance with the increase of population mobility.

Replications of the other significant and early vocabulary studies are necessary. All of them reflect their sociological settings. Continued reliance upon them and inclusion in more recent research weights the results toward the past. Such replications would also provide estimates of the reliability of the various lists, their methods, and their data sources.

The rapid rate of sociological change calls for a program of replicative research at regular intervals to maintain contemporary validity. The initial problem would be to determine the optimum and necessary intervals for measurement.

Now that replicative data exists and differences have been determined, studies should follow to identify by what words the differences exist.

Research in learning and in vocabulary and the advent of computers indicate need and feasibility for modifications of the data gathering and tabulation methods of vocabulary research. One of the major advantages of the Free-Association method is the smaller amount of running words to be tabulated in proportion to different words obtained. An advantage of the various expository-type methods for data gathering is the resulting intensive word list of a topic and the indication of word meaning. It seems justifiable to merge the methods by calling for topical listings. The intensive word list would result, the meanings of the words might be determined by their "chaining," and there would be the smaller type-token ratio.

Most early research tabulated the words in their root forms except in the case of irregular inferential forms. Research has since indicated that learning differences exist between root words and their regular derived forms, therefore, separate listings of these words would probably be more suitable. It was the experience of this writer that data modification was easier the longer it was delayed in the computer processing. For these reasons, it seems vocabulary research would be more appropriate and processing more expeditious if modifications of raw data were kept at a minimum.

The use of computers dramatically shortens the period of tabulation and at the same time provides a small space, storage system with immediate access. These advantages should increase computer utilization in vocabulary research. This seems to be an opportunity for working toward the establishment of an exchange cooperative or data bank for the purpose of merging, replicating, or contrasting research results.

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APPENDIX A

MATERIALS USED FOR ADMINISTRATION OF FREE-ASSOCIATION RESPONSE PERIOD

UNIVERSITY OF OREGON

SCHOOL OF EDUCATION

EUGENE, OREGON 97403
telephone (code 503) 342-1411

FREE-ASSOCIATION WORD STUDY

A1

Dear teacher:

Almost all vocabulary data used today, can be traced back to research before 1935. Even recent studies have relied or included this early information. For several years, authorities have suggested that we repeat those early studies. That is the purpose of this project.

In 1926, Edward Dolch conducted this type of study, which became a source of the Buckingham-Dolch Word List. This list is still considered one of the most significant.

You and almost 540 other teachers, with over 16,000 students, are assisting us. From what literature we have found, this may be the first major vocabulary research in the Pacific Northwest.

We apologize for the short notice and inconvenience to you. The elements of the study require that it be done in the Spring, and we had planned for next year. Recently, however, we were informed that the computer center could not then program for us.

We hope the results of this study will provide us with (1) an estimate of the adequacy of currently used word lists for the Willamette Valley, (2) an estimate of children's word-knowledge that we are not utilizing in the classroom, and (3) a regional word list that you may use as a supplementary resource in your language arts programs.

Thank you for your time, patience, and effort.

H Donald Jacobs
H. Donald Jacobs
Graduate Assistant
School of Education
University of Oregon

Jordan Utsey
Dr. Jordan Utsey
Associate Professor
Committee Chairman

INSTRUCTIONS
FREE-ASSOCIATION WORD STUDY

1. Make sure that all students have:
    - (a) A pencil or pen for writing.
    - (b) Cleared all other objects from their desk tops.

2. Distribute one (1) blank paper to each student.

3. Say: "YOU MAY WRITE ON BOTH SIDES. I HAVE MORE SHEETS IF YOU NEED THEM."

4. Pause

5. Say: "THINK OF AND WRITE DOWN, ALL THE DIFFERENT WORDS THAT YOU CAN."

6. If necessary, repeat the directions once to the group.

7. Answer all other questions to individuals, if possible. Try to use few words and not be overheard by others. If possible, use a gesture for an answer.
    - (a) 3 columns on each side of the paper is preferred
    - (b) Students may write or print
    - (c) For spelling help, tell the student to do his best

8. At end of 15 minutes, say: "STOP"

9. Pause, see that all have stopped.

10. Say: "BOYS, PUT AN 'M' IN THE TOP, RIGHT CORNER."
"GIRLS, PUT AN 'F' IN THE TOP, RIGHT CORNER."
(Pause)
"IF YOU LIVE IN TOWN, PUT 'YES' IN THE SAME CORNER. IF YOU DO NOT, PUT 'NO' THERE."
(Pause)
"IF YOU RIDE THE BUS TO SCHOOL, PUT A LETTER 'B' IN THE SAME CORNER."

11. If a student has used more than one page, make certain they are securely fastened together by staple, clip, or fold.

12. Direct the students to return the sheets.

13. You may now explain the study to the students, if you wish.

14. Return the Response Sheets, with this Instruction Sheet on top, to the office.

APPENDIX B

HANDBOOK
"PROCEDURE SPECIFICATIONS"

PROCEDURE SPECIFICATIONS
for
"A Replicative Study of the Buckingham-Dolch Free-Association Word Study"

1 Sort Response Sheets into Cells

  1.1 Male-Female

  1.2 Urban-Rural

  1.3 Grade Level

2 Indicate Cell Code on Response Sheets and Data Cards

  2.1 (1) Urban-Male (3) Rural-Male
  (2) Urban-Female (4) Rural-Female

  2.2 Grade = Color
  2 = red
  3 = yellow
  4 = blue
  5 = brown
  6 = green

  2.3 Identify card trays so:

  Grade X Cell X
  (Urban-Male)
  Box A

3 Key-punch Data Cards by Cells using following conventions

  3.1 Punch words in columns 1-79

    3.1.1 Leave column-space between each word

    3.1.2 Run together "open words"

    3.1.3 Punch "hyphen words"

    3.1.4 A word that is incomplete in column 79 runs into column 1 of next card

    3.1.5 If space falls on column 80 carry into column 1 of next card

    3.1.6 Correct spelling only if certain of word intended.

    3.1.7 Spelling errors punched as errored if not certain

3.1.9 Change plurals to singular and present tense.

3.1.10 If singular and plural or present and past are both written by the same student, enter just one.

3.1.11 One operator to cell, name on tray label

3.2 Punch Cell-Code in column 80 of each card

3.3 Indicate end of Response Sheet by asterisk

3.3.1 One Column-space between last word and asterisk

3.3.2 Start new Response Sheet with new data card

3.4 Key-punch Leader Card

3.4.1 White Card

3.4.2 At front of card deck

3.4.3 i.e.: Grade 2, Cell 1, Male-Urban

3.5 "Proof" Data Cards

3.5.1 "Dump" Run of Data Cards

3.5.2 Blank sheet cover on Dump

3.5.3 Label "Dump Sheet" as to cell; indicate if more than one box of cards for the cell

3.5.4 Proof "Dump" Sheet

3.5.4.1 List edits for Phase 10 on last page of dump when change will affect more than one card.

3.5.4.2 Make carton label

3.5.4.3 Return to key-puncher

3.5.4.4 Mark other edits on Error Card

3.5.4.4.1 In right-top corner of card

3.5.4.4.2 Put number of space of first letter of word followed by word as corrected

3.5.4.4.3 i.e.: #43 - who

3.6 Key-punch corrections

4 Program PDJ-1, create raw data tape

4.1 Input = "RAW DATA" cards (00C)

Output = "RAW DATA" tape (183), print-out (00E)

4.2 Cards in order punched

4.3 Stip words off cards, block onto tape

4.3.1 Read Cell Code from card col. 80, attach to each word on tape

4.3.2 One-page print-out as operational check

4.4 Output = grade level and "RAW DATA"
= Permanent File
= Input 5, PDJ-2A
= remains 183 to PDJ-3A

5 Program PDJ-2A, student and word count

5.1 Input = "RAW DATA" tape (183)
Output= "N/Wf" tape (182) and "N/Wf" print-out (00E)

5.2 Number and write asterisks as students

5.2.1 Count and write sum of words between asterisks

5.2.2 Add total running sums of words and write

5.2.3 Read and write Cell Code

5.3 Format:
STUDENT NO. NO. WORDS TOTAL CELL

5.4 Output tape = Scratch

5.5 Output listing = grade level and "N/Wf"
= for tabulation

6 Program PDJ-2B, alpha-sort

6.1 Input="RAW DATA" tape (183)
Output="ALPHA-S" tape (182)

6.2 Read from tape to discs (190 and 191) for sort

6.3 Write on tape 182

6.4 Output = grade level and "ALPHA-S"
= Permanent File thru PDJ-7C

= remains 182 to PDJ-3A
= Input #7, PDJ-2C

7 Program PDJ-2C, compressing alpha-sort

7.1 Input = "ALPHA-S" tape (182)
Output= "ALPHA-f" tape (181), print-out (00E)

7.2 Write entry once, count frequency and write

7.3 Format:

Columns	Data
1-15	word
25-27	frequency

7.4 Output tape = grade level and "ALPHA-f"
= Perm. File to PDJ-4C, then Scratch
= remains 181
= Input 14, PDJ-4C

7.5 Output listing = g.l. and "ALPHA-f"
= for tabulation
= for proofing, 9.2

8 Program PDJ-3, tentative edit

8.1 Input = "ALPHA-f" tape (181)
Output= "TENT. EDIT" tape (180), print-out (00E)

8.2 Read from end of words thru col. 3 for endings in order and write:

-ies	write 'y'
-es	blank
-s	"
-ed	"
-est	"
-ing	"

8.3 Format:

Columns	Data
1-15	"Before" word
25-39	"After" word
45-47	Frequency

8.4 Messages:

//REMOVE 'A-S' 182, PLACE SCRATCH 182 FOR PDJ-4A
//REMOVE 'RAW' 183, PLACE SCRATCH OR 'IKU' 183 FOR PDJ-4

8.5 Output tape = grade level and "TENT. EDIT"
= remains 180

= Input 12, PDJ-4A

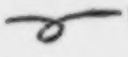
8.6 Output listing = g.l. and "TENT. EDIT"
= for proofing

9 Proof "Alpha-f" and "Tentative Edit"

9.1 Proof "Tentative Edit" first

9.1.1 Indicate change in order by dash preceding "Before" word

9.1.2 Indicate spelling change of edit by correcting word in "After" column

9.1.3 Indicate removal of "Before" word by '  ' in "After" column

9.1.4 Indicate removal of edit by correcting "After" word to be identical to "Before" word

9.1.5 Circle "Before" word when uncertain of word intended, draw dash through "After" column

9.2 Proof "Alpha-f"

9.2.1 Omit all entries found on "Tentative Edit"

9.2.2 Consider space between word and frequency as "After" column

9.2.3 Follow same notation procedures as in 8.1

10 Key-punch "Edit" cards from proofed "Alpha-f" and "Tentative Edit"

10.1 Key-punch all entries preceded by dash

10.2 Key-punch "Before" word as appears

10.3 Key-punch "After" entry so:

10.3.1 As corrected in spelling

10.3.2 '   ' leave blank

10.3.3 '   ' leave blank

10.4 Key-punch frequency as appears

10.5 Format for "Edit" cards

Columns	Data
1-15	"Before" word
21-35	"After" word
38-40	Frequency

10.6 Proof key-punching from cards and "Alpha-f" and "Tentative Edit" print-outs

11 Distribute lists to judges of those words not certain of what intended.

11.1 Remove cards of words circled in "Before" column (Refer to 8.1.5).

11.1.1 Alphabetically sort cards by "Before" words

11.1.2 Run print-out of cards for each judge

11.2 Judges record their decisions of word intended

11.2.1 Tabulate decisions, indicate consensus

11.2.2 Write "After" word on card when consensus Obtained

12 Program PDJ-4A, edit tape.

12.1 Input = "Edit" cards (00C), "TENT. EDIT" tape (180)
Output = "APPROVED EDIT" tape (182)

12.2 Put "EDIT" cards from "TENT. EDIT", "ALPHA-f" proofs and judges' lists together within each grade

12.3 Alpha-sort "EDIT" cards by "Before" word, columns 8 thru 1, in that order.

12.4 Merge "EDIT" cards/"TENT. EDIT" tape

12.4.1 Card entry < tape entry, write card word

12.4.2 Card "Before" word = tape "Before" word, write card entry

12.5 Output = grade level and "Approved Edit"
= remains 182
= Input 13, PDJ-4B

13 Program PDJ-4B, "Before" alpha-sort.

13.1 Input = "APP'D EDIT" tape (182)
Output = "APP'D EDIT 'B'" tape (182)

13.2 Alpha-sort "APP'D EDIT" tape by "Before" words

13.3 Output = grade level and "APP'D EDIT 'B'"
= remains 182
= Input 14, PDJ-4C
= Input 15, PDJ-4D

14 Program PDJ-4C, delete "Befores"

14.1 Input = "APP'D EDIT 'B'" tape (182), "ALPHA-f" tape (181)
Output = "ALPHA-f 'D'" tape (180)

14.2 Merge "APP'D EDIT 'B'"/"ALPHA-f"

14.2.1 Edit "Before" word = Alpha word, do not write

14.2.2 Edit "Before" word≠Alpha word, write Alpha word

14.3 Output = grade level and "ALPHA-f 'D'"
= remains 180
= Input 16, PDJ-4E

15 Program PDJ-4D, alpha-sort "AFTERS"

15.1 Input = "APP'D EDIT 'B'" tape (182)
Output - "APP'D EDIT 'A'" tape (182)

15.2 Alpha-sort "APP'D EDIT" tape by "After" words

15.3 Output = grade level and "APP'D EDIT 'A'"
= remains 182
= Input 16, PDJ-4C

16 Program PDJ-4E, merge corrections

16.1 Input = "APP'D EDIT 'A'" tape (182), "ALPHA-f 'D'" tape (180)
Output = "Alpha-S EDITED" (181)

16.2 Merge "APP'D EDIT 'A'"/"ALPHA-f 'D'"

16.2.1 Edit word < Alpha word, write Edit word with f

16.2.2 Edit word = Alpha word, write Edit word with f

16.2.3 " = " " , write Alpha word with f

16.2.4 Edit word > Alpha word " " " " "

16.3 Output = grade level and "ALPHA-S EDITED"
= remains 181
= Input 17, PDJ-4F

17 Program PDJ-4F, compress edited data

17.1 Input = "ALPHA-S EDITED" tape (181)
Output = ALPHA-f EDITED" tape (180)

17.2 Read entry and write word

17.2.1 Read = entries, add and write f

17.2.2 Read ≠ entry, write ≠ entry

17.3 Output =grade level and "ALPHA-f EDITED"
=Perm. File thru 19, PDJ-4H
=remains 180
=Input 19, PDJ-4H

18 Program PDJ-4G, create "IKU" tape

18.1 Input = "IKU" cards (00C)
Ouptput = "IKU" tape (183)

18.2 Key-punch IKU cards in same format as Raw Data, without col. 80 reserved.

18.3 Read cards onto tape

18.4 Remove PDJ-4G after grade II processed

18.5 Message

//REMOVE THIS PROGRAM AFTER "IKU" CREATION

18.6 Output = "IKU"
= Perm. File thru 19, PDJ-4H, of all grades
= remains 183
= Input 19, PDJ-4H

19 Program PDJ-4H, remove "IKU" words

19.1 Input = "IKU" tape (183), "ALPHA-f EDITED" tape (180)
Output = "NET ALPHA" tape (181), "IKU-f" print-out (00E)

19.2 Merge "IKU"/"ALPHA-f EDITED"

19.2.1 Alpha word < IKU word, write alpha entry

19.2.2 Alpha word = IKU word, do not write alpha entr
print-out IKU word, alpha frequen

19.2.3 Alpha word > IKU word, print-out IKU word,
"NOT ON FILE"

19.3 messages:

//CHECK G.L. NO. IN PDJ-4H DECK
//REMOVE 'NET ALPHA' 181, 'IKU' 183

//MOUNT SCRATCH 182, 'RAW DATA' 183 FOR NEXT GRADE
//REPLACE G.L. NO. IN PDJ-4H DECK

19.4 Output tape =grade level and "NET ALPHA"
=Perm. File thru 22, PDJ-6A
=Input 20, PDJ-5
=Input 22, PDJ-6A

19.5 Output listing = grade level and "IKU DELETES"
= for tabulation

20 Program PDJ-5, sort into frequency sets

20.1 Input = "NET ALPHA" tape (181)
Output = "f-SETS" tape (182), print-out (00E)

20.2 Read frequency, write words in frequency order

20.2.1 Alpha-sort within Frequency Set

20.2.2 Double column list on print-out

20.3 Output tape = grade level and "f-SETS"
= Scratch

20.4 Output listing = g.l. and "f-SETS"
= for reproduction

21 Teachers select criterion frequency

21.1 Letters to sch. dist. administration for assistance and list of teachers

21.1.1 List of districts

21.1.2 Returns from districts

21.2 Select teachers from dist. lists

21.3 Stencil letter of request and post-card, address stamp post-card and envelope

21.3.1 Four mail tags per teacher

21.3.2 Tag on list, letter, post-card, envelope

21.4 Send letters

21.5 Returns from teachers

21.5.1 Mark off if not willing

21.5.2 Check if willing

21.6 Prepare materials

21.6.1 Cut, mount, and reproduce f-SETS of words by grade-levels

21.6.2 Stencil instruction letter and ballot card; make 3 mail tags per teacher

21.6.3 Tags on letter, card, envelope; address stamp on card, envelope

21.6.4 Prepare packets

21.6.4.1 f-SETS list from same grade as teacher

21.6.4.2 Letter, ballot-post-card

21.7 Send packets

21.8 Returns from teachers

21.8.1 Tabulate selections

21.8.2 W. Wash., W. Ore., E. Wash., E. Ore.

21.8.3 Select grade-placement Criterion frequency

ALL PROCESSING PREVIOUSLY DESCRIBED MUST BE COMPLETED FOR ALL GRADES BEFORE PROCEEDING

22 Program PDJ-6A, create grade-level lists

22.1 Input = "NET III" tape (181), "NET II" tape (182)
Output = "Σ II-III" tape (183)

22.2 Carry f1, f2 words upward; remove f1, f2 from lower grade, remove duplicate grade-placements, create master list

22.3 Merge "NET II" / "NET III"

22.3.1 Word$_1$ $<$ word$_2$, (1=II, 2=III)
-$f_1 < 3$, write word$_1$, f_1, GL_2
-f_1 =3 or more, write word$_1$, f_1, GL_1

22.3.2 Word$_1$ = Word$_2$,
-$f_1 < 3$, write word$_1$, $f_1 + f_2$, G.L.$_1$
-f_1 =3 or more, write word$_1$, f_1, G.L.$_1$

```
        22.3.3  Word$_1$ = Word$_2$, write word$_2$, $f_2$, $GL_2$

    22.4  Messages:

        //MOUNT NEXT GRADE 181, MOVE 'Σ' 182

    22.5  Output = "Σ II-III"
                 = Input 22.6, PDJ-6A
                 = move to 182

    22.6  Program PDJ-6A repeat for grade IV

        22.6.1  Input = "NET IV" (181), "Σ II-III" (182)
                Output = "Σ II-IV" (183)

        22.6.2  Same procedures 22.2 thru 22.4

        22.6.3  Output = "Σ II-IV"
                       = Input 22.7, PDJ-6A
                       =move to 182

    22.7  Program PDJ-6A repeat for grade V

        22.7.1  Input = "NET V" (181), "Σ II-IV" (182)
                Output = "Σ II-V" (183)

        22.7.2  Same procedures 22.2 thru 22.4

        22.7.3  Output = "Σ II-V"
                       = Input 22.8, PDJ-6A
                       = move to 182

    22.8  Program PDJ-6A repeat for grade VI

        22.8.1  Input = "NET VI" (181), "Σ II-V" (182)
                Output = "Σ '66" (183)

        22.8.2  Same procedures 22.2 thru 22.4

        22.8.3  Output = "Σ '66"
                       = Input 23; PDJ-6B
                       = leave on 183

23  Program PDJ-6B, remove and list residual f1, f2 words

    23.1  Input = "Σ '66" (183)
          Output = "1966" (182), "RESIDUAL" print-out (00E)

    23.2  Read entry:

        23.2.1  f < 3, print word and f

        23.2.2  f=3 or more, write entry
```

23.3 Message:

//REMOVE 'NET' 181, MOUNT SCRATCH 181

23.4 Output tape = "1966"
= Input 24; PDJ-6C
= leave on 182

23.5 Output listing = "RESIDUAL f1, f2 WORDS"
= for tabulation

24 Program PDJ-7A, create 1926 tape

24.1 Key-punch data cards in same format as "RAW DATA" card

24.1.1 Color code cards as "RAW DATA" cards.

24.1.2 Grade level in col. 80.

24.2 Input = "1926 CARDS" (00C)
Output = "1926 GRADE LEVEL" (180)

24.2.1 Read word, write word

24.2.2 Read col. 80, write grade level with each word

24.2.3 Output = Scratch
= Input 26, PDJ-7B
= remains on 180

25 Program PDJ-7B, alpha-sort 1926

25.1 Input = "1926 GRADE LEVEL" (180)
Output = "1926" (181)

25.2 Alpha sort words, write with grade levels

25.3 Output = Input 27, PDJ-7C
= remains on 181

26 Program PDJ-7C, merge 1926 and 1966

26.1 Input = "1926" (181), "1966"(182)
Output = "26/66" tape (183), listing (00E)

26.2 Read '26 word and '66 word

26.2.1 '26 word '66 word; write '26 word, '26 G.L. in col. 20

26.2.2 '26 word = '66 word; write '26 word, '26 G.L. in col. 20, '66 G.L. in col. 17.

26.2.3 '26 '66 word; write '66 word, '66 GL in col.1

26.3 Double listing in columns

26.4 Output tape = Perm. File
Output listing = for reproduction
= for tabulation

27 Program PDJ-8A, word tabulation

27.1 Input = "26/66" (183)
Output = "WORD TABULATION" (00E)

27.2 Read 1926 grade level column

27.2.1 '26=0, add 1 to "N of ZERO '26"

27.2.2 '26=X, go to "READ 1926"

27.3 Read 1926 grade level column

27.3.1 '66=0, add 1 to "N OF ZERO '66"

27.3.2 '66=X, go to "COMPARE"

27.4 Compare

27.4.1 26 66, add 1 to "N 26 66"

27.4.2 26 =66, " " " "N 26 =66"

27.4.3 26 66, " " " "N 26 66"

27.5 Output listing = for analysis

28 Program PDJ-8B, grade-level listings

28.1 Input = "26/66" (183)
Output ' "GRADE LEVEL II LIST" (00E)

28.2 Read entry

28.2.1 Grade level = 2, write word only

28.2.2 Grade level 2, go to next word

28.3 Message:

//CHANGE G.L. SELECTION CARD

28.4 Output = for reproduction
= double column listing

28.5 Program PDJ-8B repeat for grade III

28.5.1 Input = "26/66" (183)
Output = "GRADE LEVEL III LIST (00E)

28.5.2 Change grade level selection card in PDJ-8B deck to "3"

28.5.3 Procedures 28.2 thru 28.4

28.6 Program PDJ-8B repeat for grade IV

28.6.1 Input = "26/66" (183)
Output = "GRADE LEVEL IV LIST" (00E)

28.6.2 Change G.L. card in PDJ-8B deck to "4"

28.6.3 Procedures 28.2 thru 28.4

28.7 Program PDJ-8B repeat for grade V

28.7.1 Input = "26/66" (183)
Output = "GRADE LEVEL V LIST" (00E)

28.7.2 Change G.L. Card in PDJ-8B deck to "5"

28.7.3 Procedures 28.2 thru 28.4

28.8 Program PDJ-8B repeat for grade VI

28.8.1 Input = "26/66" (183)
Output = "GRADE LEVEL VI LIST" (00E)

28.8.2 Change G.L. Card in PDJ-8B deck to "6"

28.8.3 Procedures 28.2 thru 28.4

29 Reproduction of listings

29.1 Cut and mount columns of words from grade level listings of PDJ-8B

29.2 Photo-reduction "litho" plates

29.3 Cut and mount columns of words from '26/66' listing of PDJ-7C

29.4 Photo-reduction "litho" plates

30 Analyze word data

30.1 Label, count, tabulate types of words by data categorie

30.2 Use listings from processing

30.2.1 "N/Wf", PDJ-2A

30.2.2 "ALPHA-f", PDJ-2C

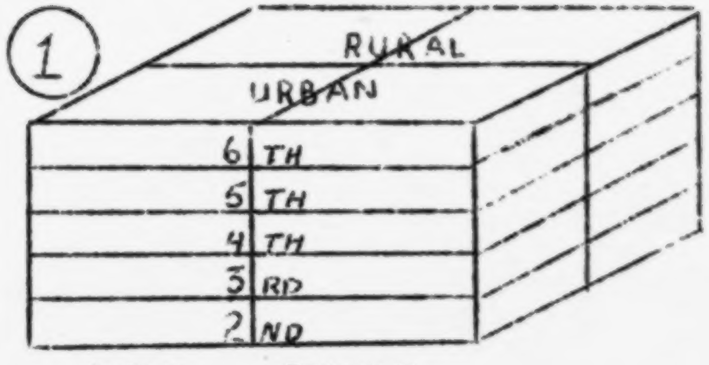
30.2.3 "IKU f DELETES", PDJ-4H

30.2.4 "f-SETS", PDJ-5

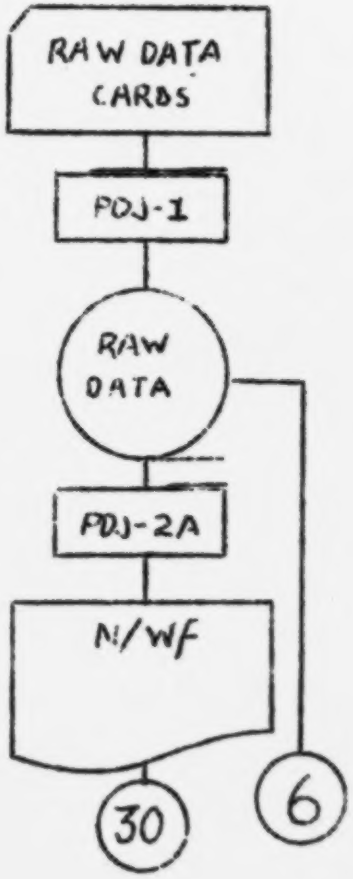
30.2.5 "RESIDUAL", PDJ-6B

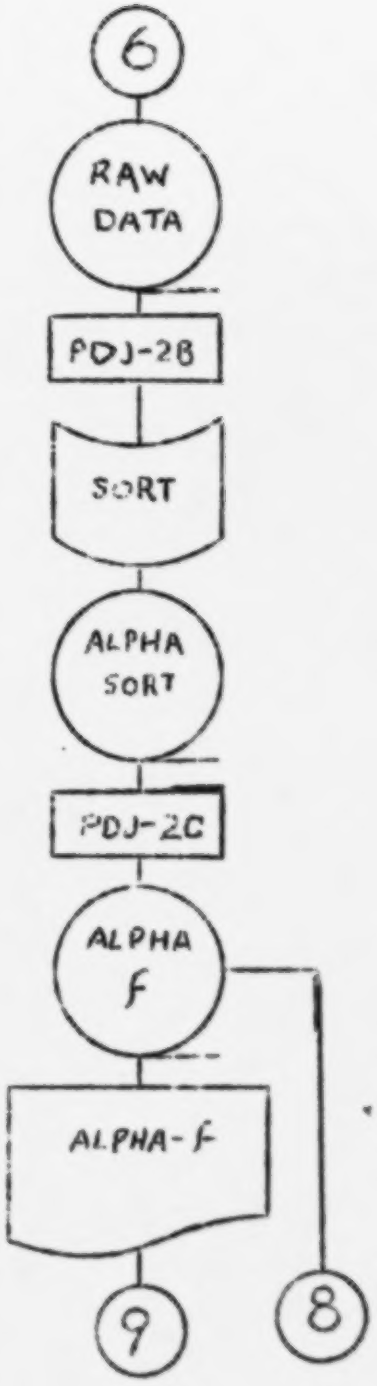
30.2.6 "WORD TABULATION", PDJ-8A

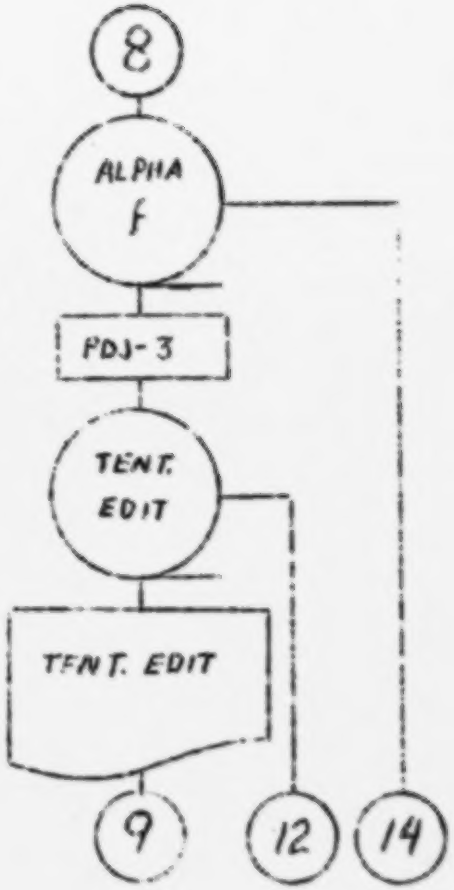
30.2.7 "GRADE LEVEL LISTS", PDJ-8B

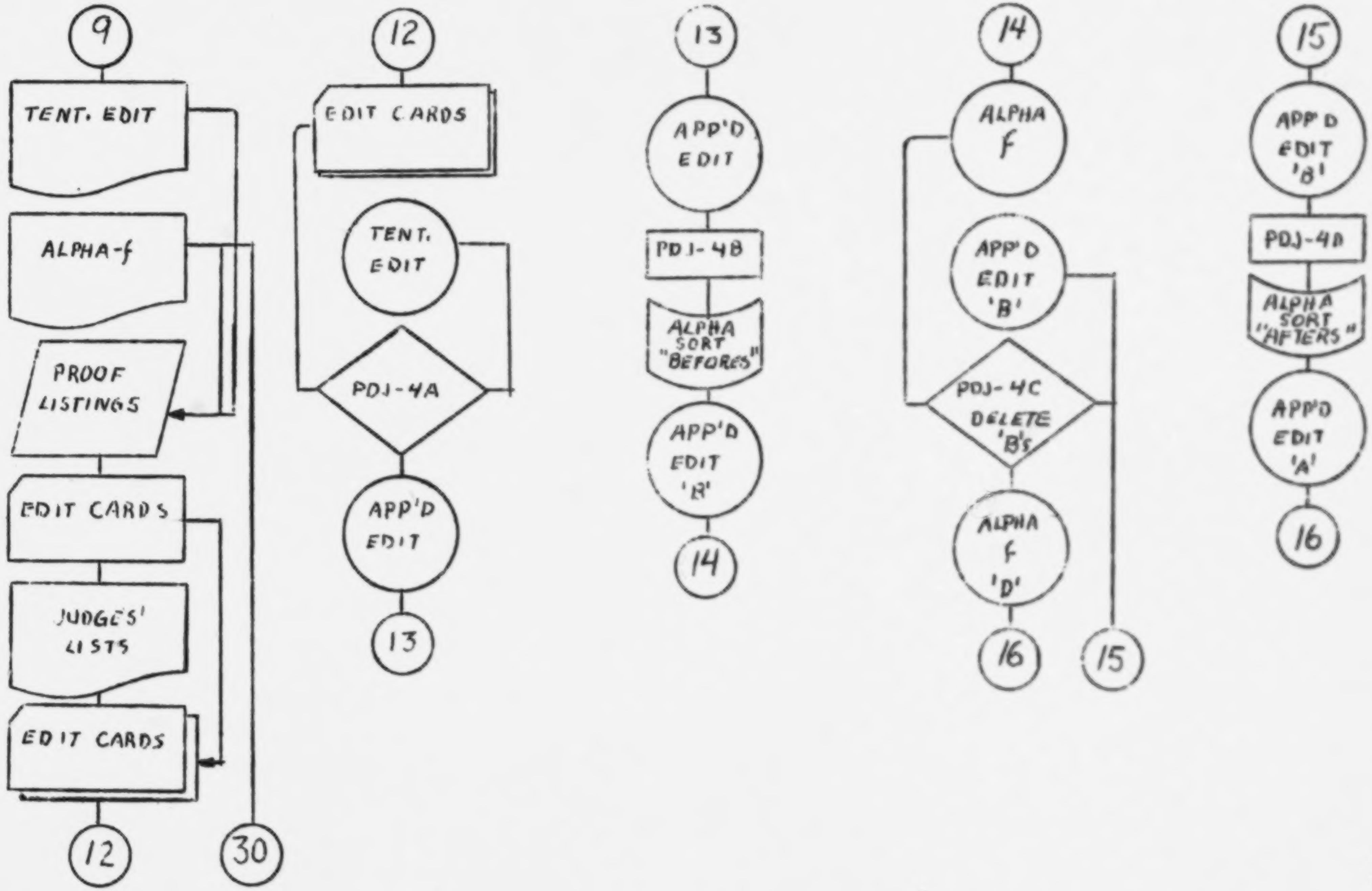

①
RURAL
URBAN
6 TH
5 TH
4 TH
3 RD
2 ND
MALE
FEMALE

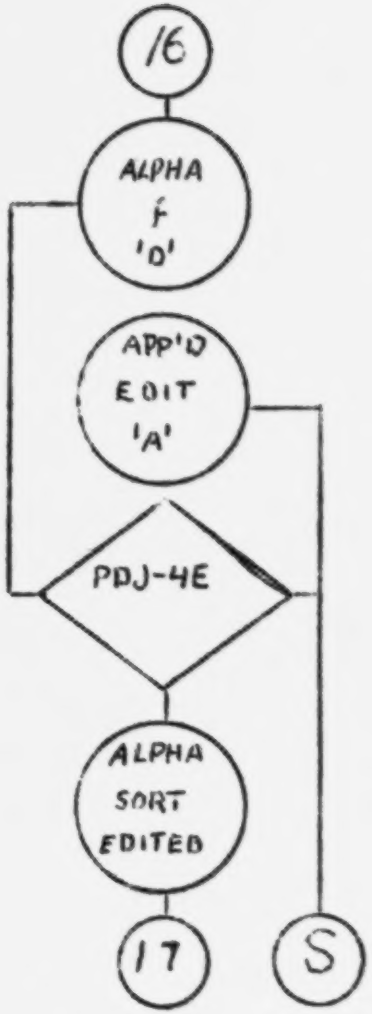
DATA SORT


RAW DATA CARDS
PDJ-1
RAW DATA
PDJ-2A
N/WF
30
6


6
RAW DATA
PDJ-2B
SORT
ALPHA SORT
PDJ-2C
ALPHA f
ALPHA-f
9
8


8
ALPHA f
PDJ-3
TENT. EDIT
TENT. EDIT
9
12
14


9
TENT. EDIT
ALPHA-f
PROOF LISTINGS
EDIT CARDS
JUDGES' LISTS
EDIT CARDS
12
30
12
EDIT CARDS
TENT. EDIT
PDJ-4A
APP'D EDIT
13
13
APP'D EDIT
PDJ-4B
ALPHA SORT "BEFORES"
APP'D EDIT 'B'
14
14
ALPHA f
APP'D EDIT 'B'
PDJ-4C DELETE 'B's
ALPHA f 'D'
16
15
15
APP'D EDIT 'B'
PDJ-4D
ALPHA SORT "AFTERS"
APP'D EDIT 'A'
16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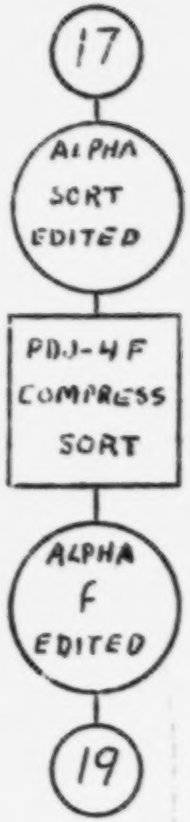
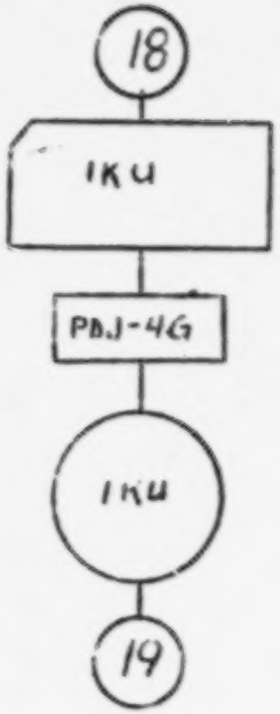
ALPHA f 'D'
APP'D EDIT 'A'
PDJ-4E
ALPHA SORT EDITED
17
S


17
ALPHA SORT EDITED
PDJ-4F COMPRESS SORT
ALPHA f EDITED
19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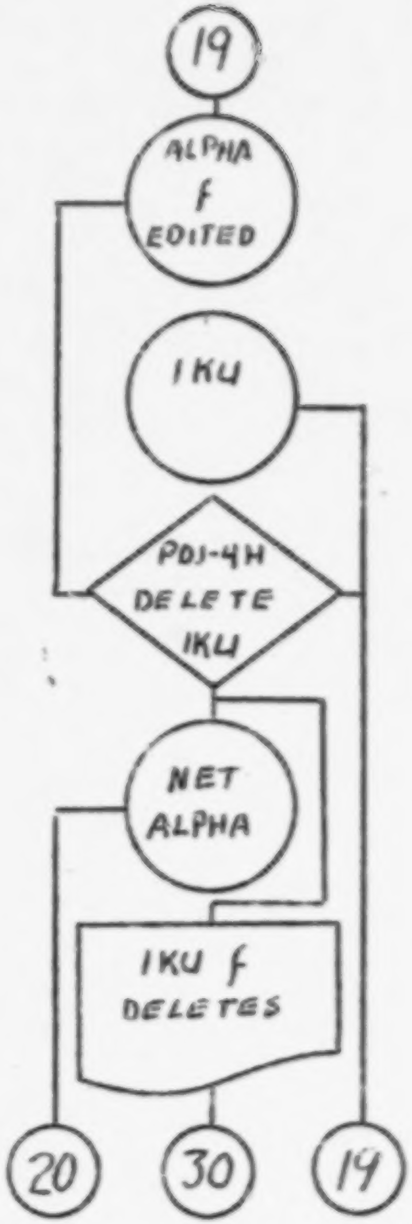
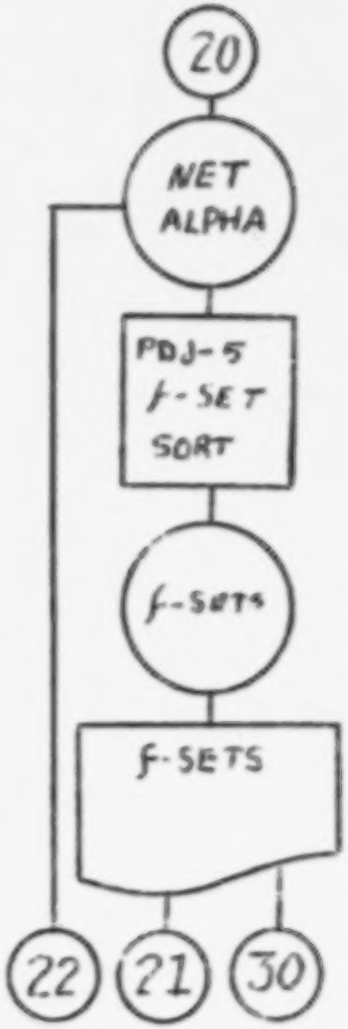
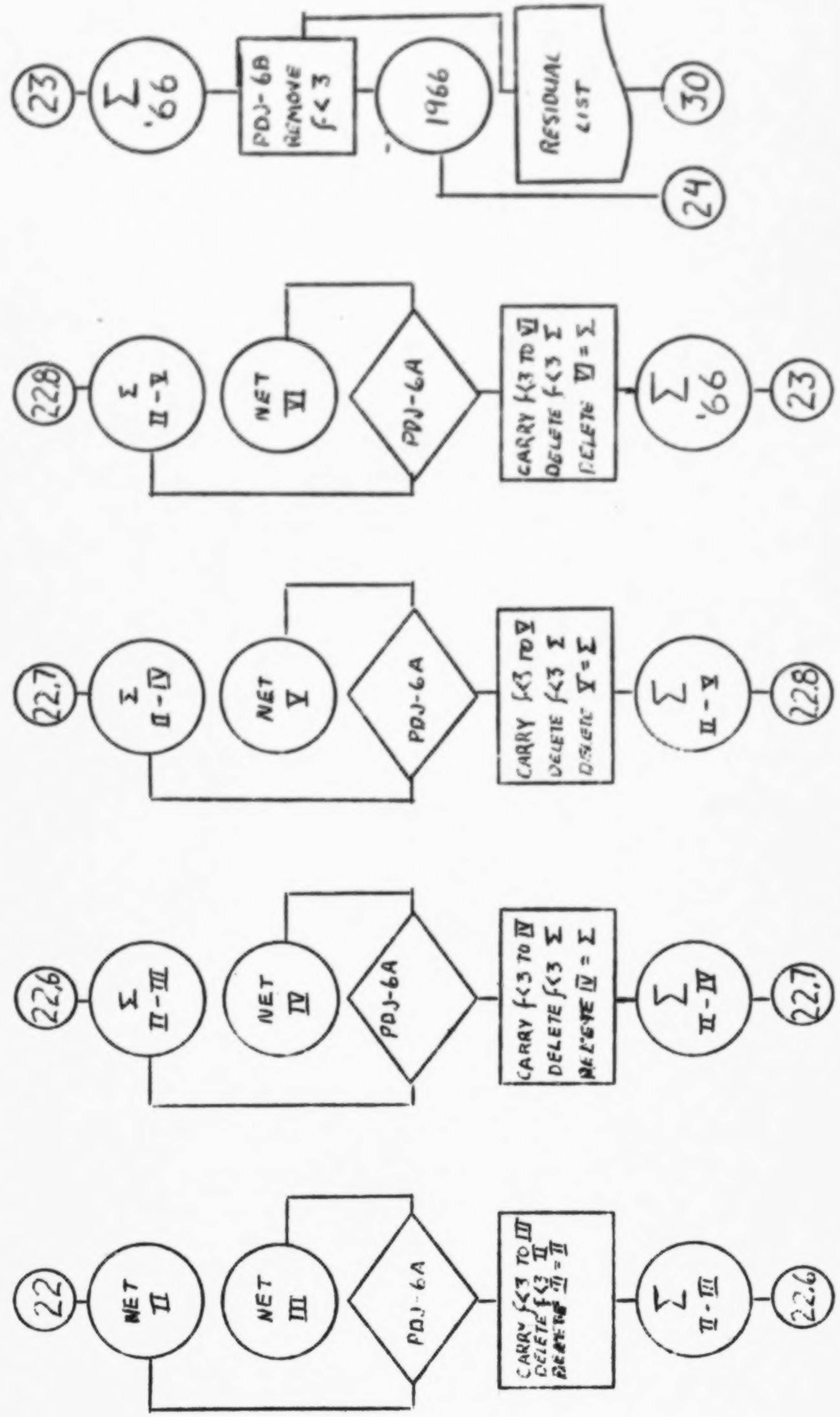
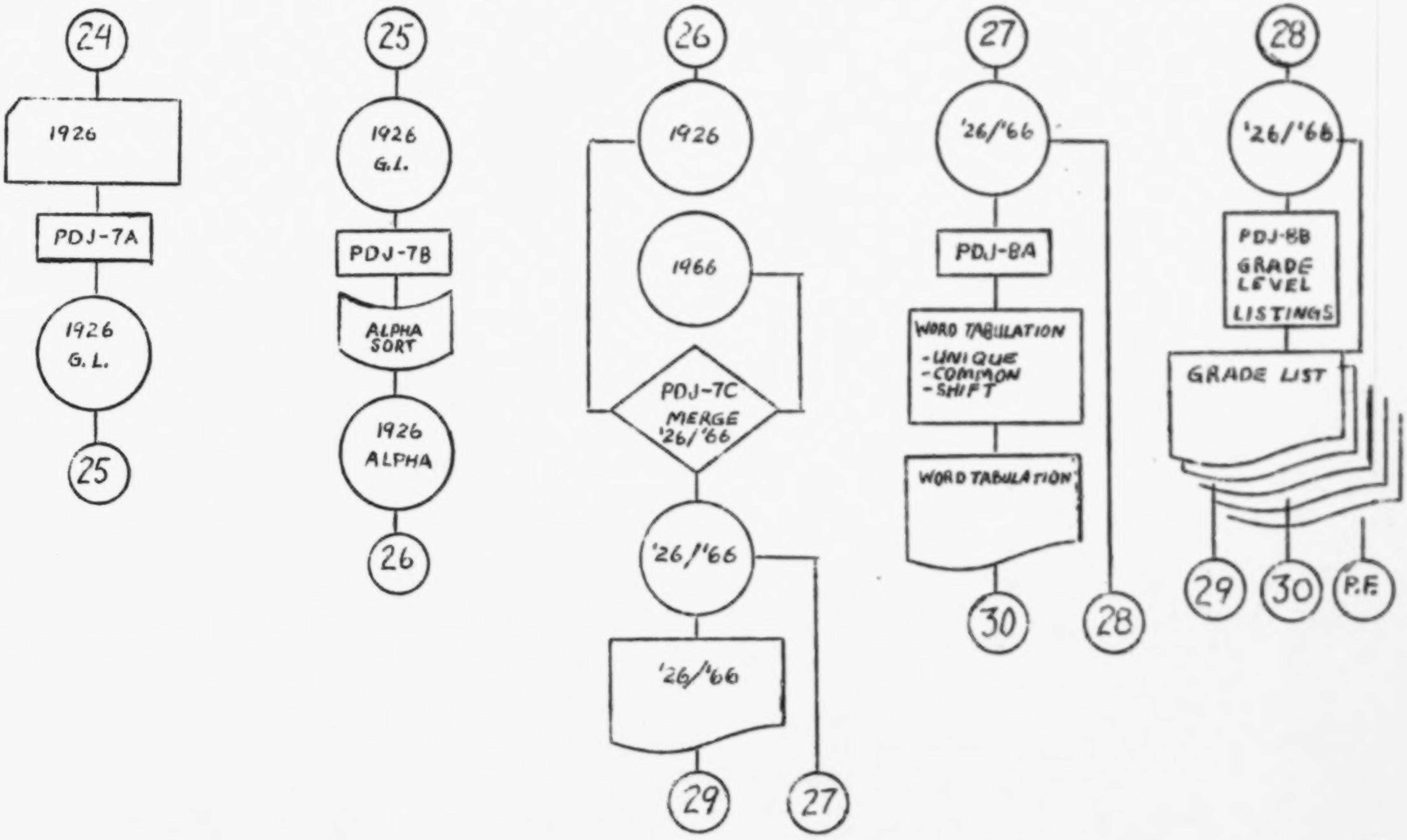
IKU
PDJ-4G
IKU
19


19
ALPHA f EDITED
IKU
PDJ-4H DELETE IKU
NET ALPHA
IKU f DELETES
20
30
19


20
NET ALPHA
PDJ-5 f-SET SORT
f-SETS
f-SETS
22
21
30


22
NET II
NET III
PDJ-6A
CARRY f<3 TO III
DELETE f<3 II
DELETE III = II
Σ II-III
22.6
22.6
Σ II-III
NET IV
PDJ-6A
CARRY f<3 TO IV
DELETE f<3 Σ
DELETE IV = Σ
Σ II-IV
22.7
22.7
Σ II-IV
NET V
PDJ-6A
CARRY f<3 TO V
DELETE f<3 Σ
DELETE V = Σ
Σ II-V
22.8
22.8
Σ II-V
NET VI
PDJ-6A
CARRY f<3 TO VI
DELETE f<3 Σ
DELETE VI = Σ
Σ '66
23
23
Σ '66
PDJ-6B
REMOVE
f<3
1966
RESIDUAL
LIST
30
24


24
1926
PDJ-7A
1926 G.L.
25
25
1926 G.L.
PDJ-7B
ALPHA SORT
1926 ALPHA
26
26
1926
1966
PDJ-7C MERGE '26/'66
'26/'66
'26/'66
29
27
27
'26/'66
PDJ-8A
WORD TABULATION -UNIQUE -COMMON -SHIFT
WORD TABULATION
30
28
28
'26/'66
PDJ-8B GRADE LEVEL LISTINGS
GRADE LIST
29
30
P.F.

APPENDIX C

MATERIALS USED FOR THE SELECTION OF THE CRITERION FREQUENCY

UNIVERSITY OF OREGON

SCHOOL OF EDUCATION

EUGENE, OREGON 97403
telephone (code 503) 342-1411

Dear

For almost a year we have been collecting and processing data for a replicative research project of one of Dr. Edward Dolch's original vocabulary studies. The project is being cooperatively financed by the United States Office of Education, the University of Oregon, the Oregon School Study Council, and private funds.

We are now asking for teacher evaluation and judgement of our obtained word lists.

Would you please send us a list of several teachers in your district who are considered very effective in the teaching of reading and spelling, and are now teaching in regular elementary classrooms? A letter introducing the project and requesting cooperation will be sent to those teachers whose names are randomly selected from your list.

Each teacher who is able to assist us will be sent several lists of words. The teacher will be asked to select one list he or she feels is most appropriate for the criteria we present and return a postcard indicating the selection.

Would you please send the list of teachers at your earliest convenience as we are several weeks behind schedule due to data processing delays.

FREE-ASSOCIATION VOCABULARY STUDY

Jordan Utsey
Jordan B. Utsey
Associate Professor

H. Donald Jacobs
H. Donald Jacobs
Instructor

HDJ:db
Enclosure

The following teachers are currently teaching in regular classrooms and are known among the personnel of our district as very successful reading and spelling teachers:

1.____

2.____

3.____

4.____

5.____

6.____

8.____

9.____

10.____

11.____

12.____

UNIVERSITY OF OREGON

SCHOOL OF EDUCATION

EUGENE, OREGON 97403
telephone (code 503) 342-1411

C3

Dear

For almost a year we have been collecting and processing data for a replicative research project of one of Dr. Edward Dolch's original vocabulary studies. We are now asking for teacher evaluation and judgment.

Your name was randomly selected for requesting further assistance from a list of teachers identified as highly successful in the teaching of reading and spelling.

If you indicate, by the enclosed card, that you will be able to assist us, we will send you a packet containing several lists of words. After evaluating the lists, you will return a card to us indicating which list you think is most appropriate by the criteria we specify.

Please indicate, on the enclosed card, whether you are or are not able to assist us at this time. If you are able to participate, please respond to the additional questions on the card.

Please return the post card as soon as possible. We are several weeks behind schedule due to data processing delays.

FREE-ASSOCIATION VOCABULARY STUDY

Jordan Utsey
Jordan B. Utsey
Associate Professor

H Donald Jacobs
H. Donald Jacobs
Instructor

HDJ:db

Enclosure

UNIVERSITY OF OREGON

SCHOOL OF EDUCATION

EUGENE, OREGON 97403
telephone (code 503) 342-1411

Dear Teacher,

You are one of more than one hundred teachers participating in this phase of our study. We are attempting to determine how appropriate the basic vocabulary lists are for today's children. Most of these lists' origins are vocabulary studies conducted in the 1920's. Specifically, we are replicating Dr. Edward Dolch's Free-Association Vocabulary Study.

The project is being cooperatively financed by the United States Office of Education, the University of Oregon, the Oregon School Study Council and private funds.

Under the direction of approximately 500 teachers, almost 15,000 students from grades two through eight wrote all the words that came to mind during fifteen minutes. Because of costs, only the data from grades two through six are being treated at this time.

Included in this packet are several different word lists and a ballot post card.

Carefully read and compare the different word lists. Without consulting other individuals, select the list that you feel, without any modification, best fits the description below:

> This list illustrates the typical vocabulary growth in reading and spelling of most of the students at this grade level; although not necessarily of the group I have this year.

Record the selection you make on the ballot postcard and return it to us as soon as possible. You may keep the word lists.

Thank you very much for your time and effort. Results of this study will be available through the Oregon School Study Council, School of Education, University of Oregon, some time after next September.

FREE-ASSOCIATION VOCABULARY STUDY

Jordan Utsey

Jordan B. Utsey
Associate Professor

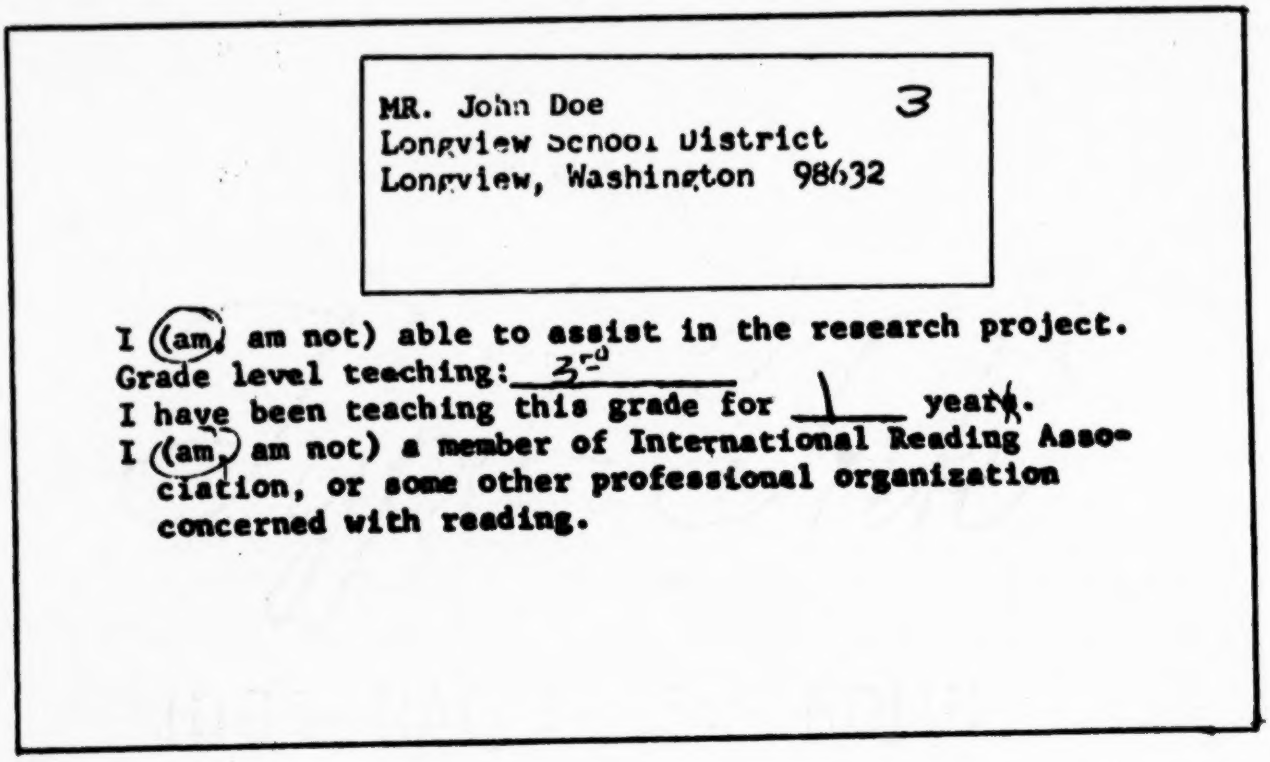
H Donald Jacobs

H. Donald Jacobs
Instructor

HDJ:db

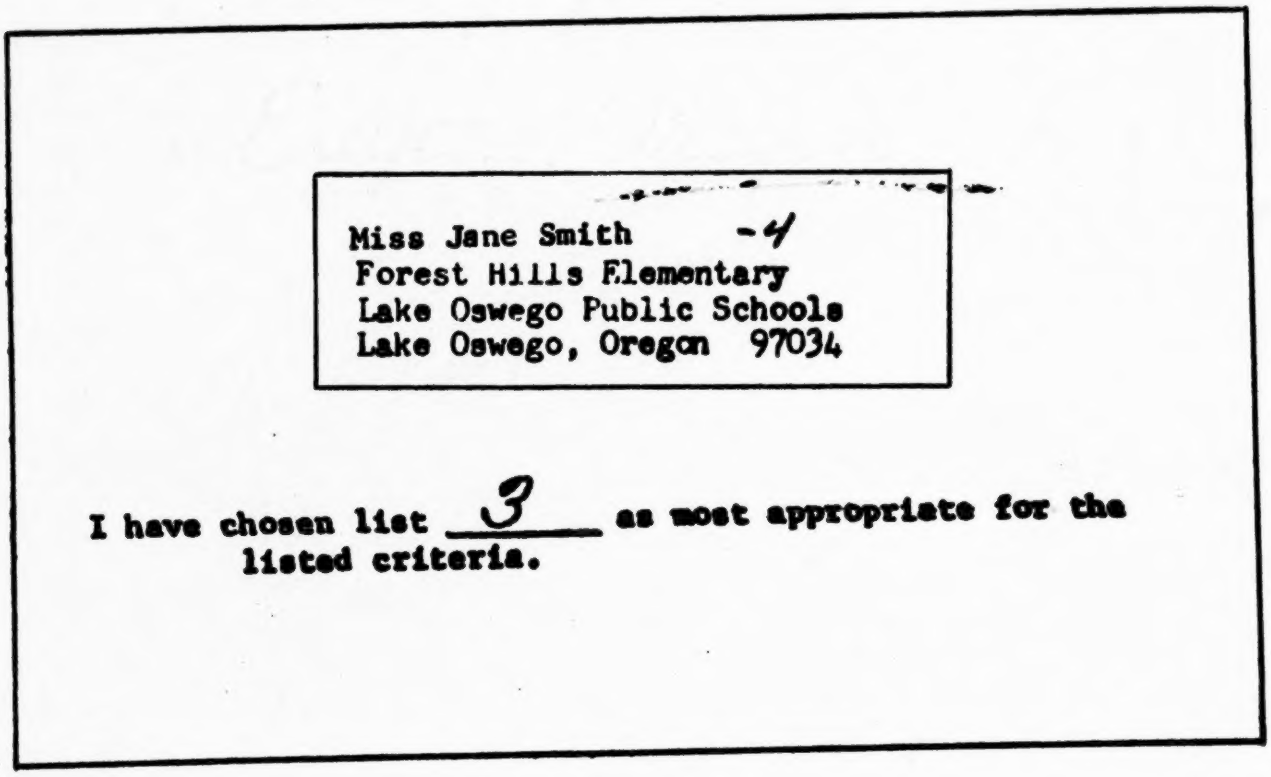
Enclosures: Word Lists
Instruction Sheets
Ballot Postcard

TEACHERS' RESPONSE CARDS



MR. John Doe 3
Longview School District
Longview, Washington 98632

I ([✓ am], am not) able to assist in the research project.
Grade level teaching: 3rd
I have been teaching this grade for 1 year~~s~~.
I ([✓ am], am not) a member of International Reading Association, or some other professional organization concerned with reading.



Miss Jane Smith -4
Forest Hills Elementary
Lake Oswego Public Schools
Lake Oswego, Oregon 97034

I have chosen list 3 as most appropriate for the listed criteria.

APPENDIX D

FORMULAS USED IN DATA ANALYSIS

FORMULAS USED IN DATA ANALYSIS[1]

1. Correlation by raw score, ungrouped data

$$r = \frac{N\Sigma XY - \Sigma X \Sigma Y}{\sqrt{[N\Sigma X^2 - (\Sigma X)^2][N\Sigma Y^2 - (\Sigma Y)^2]}}$$

2. Critical Ratios of the percents of unique words

$CR_{\%} = \frac{\% u}{SE\%}$	
$\% u = \frac{U}{W}$	Percent of unique words
$SE_{\%} = \sqrt{\frac{PQ}{N}}$	Standard error of the percent

3. Critical Ratios of the percents of grade placement shift

$CR_{\%} = \frac{\%}{SE_{\%}}$	Computation follows same procedures as in #2.
$CR_{D\%} = \frac{P_1 - P_2}{SE_{D\%}}$	Critical Ratio of the difference of percents
$SE_{D\%} = \sqrt{\underline{P}Q\left(\frac{1}{N_1} + \frac{1}{N_2}\right)}$	Standard error of the difference of percents
$\underline{P} = \frac{N_1 P_1 + N_2 P_2}{N_1 + N_2}$	Pooled estimate of P

U,u -unique
CR -critical ratio
SE -standard error
W -total grade placed words

P -percent
Q -(1 - P)
N -sample size
D -difference

4. Mean by grouped frequency interval data and Assumed Mean

$$\bar{M} = A\bar{M} + \frac{\Sigma fx'}{N} i$$

5. Median by grouped frequency interval data

$$Md = \ell + \left(\frac{\frac{N}{2} - F}{fm}\right) i$$

6. Standard deviation by grouped frequency interval data

$$S.D. = i\sqrt{\frac{\Sigma fx^2}{N} - \left(\frac{\Sigma fx'}{N}\right)^2}$$

7. Skewness by percentiles

$$Sk = \frac{(P_{90} + P_{10})}{2} - P_{50}$$

8. Kurtosis by quartiles and percentiles

$$Ku = \frac{Q}{P_{90} - P_{10}}$$

$$Q = \frac{Q_3 - Q_1}{2}$$

$\bar{M}$ - mean
$A\bar{M}$ - approximate mean
Md - median
$S.D.$ - standard deviation

Sk - skewness
P - percentile
Ku - kurtosis
ℓ - lower limit of interval

---

[1] Henry E. Garrett, *Statistics in Psychology and Education* (New York: David McKay Company, Inc., 1958), pp. 30-38, 49-53, 143, 197, 235-236.

APPENDIX E

1966 FREE-ASSOCIATION WORD LIST: GRADE LEVELS

1966 FREE-ASSOCIATION WORD LIST
GRADE LEVELS

GRADE 2

ABDOMEN
ADD
ADDITION
ADVENTURE
AGE
AID
ALOT
ALPHABET
APE
ARITHMETIC
ARMY
ART
BAN
BAR
BARK
BASE
BASIC
BATTER
BAY
BEAK
BEANSTALK
BEAVER
BECOME
BEER
BEWARE
BEYOND
BID
BIKE
BINGO
BLANK
BLEND
BLINK
BLOWN
BOBCAT
BOIL
BOLD
BOLL
BOOTH
BORE
BOWWOW
BRAG
BRAIN
BRAT
BRIDE
BROOK
BROW
BUCK
BUDDY
BULL
BUSINESS
BUZZ
CAPITAL
CAST
CELL
CHAIRMAN
CHARACTER
CHART
CHECK
CHECKER
CHILLY
CHIN
CHIP
CHIPMUNK
CHOIR
CHOKE
CHOW
CITIZEN
CLAM
CLANK
CLAW
CLEANER
CLIP
CLOD
CLUE
COAST
CODE
COKE
COLT
COMIC
COMPLETE
COOKY
COP
CORD
CORE
COT
CRAM
CRASH
CRAYOLA
CREW
CROCODILE
CROOK
CUB
DART
DAWN
DECK
DEED
DELL
DEN
DENT
DESERT
DEW
DIM
DIP
DITTO
DIVE
DOLLHOUSE
DOME
DOSE
DRAG
DRAGON
DRIP
DUG
DUKE
DULL
DUMB
DUN
EIGHTY
ELF
ELK
ENJOY
ERRAND
EVERY
EXERCISE
EXIT
EXPLORE
EXPRESS
EXTRA
FA
FACT
FADE
FAIL
FAITH
FAKE
FAME
FAREWELL
FAY
FEAR
FEMALE
FIFTH
FIG
FILE
FILM
FIN
FIR
FIREMEN
FIST
FIVE
FLAKE
FLAME
FLAP
FLASH
FLIGHT
FLING
FLIP
FLOAT
FLOW
FLU
FOG
FOOLISH
FORE
FOREST
FORM
FORT
FOURTH
FRAME
FREE
FRIENDLY
FRIGHT
FROWN
FRY
FUSS
GAY
GHOST
GIG
GILL
GINGER
GLOBE
GOAL
GOD
GRAND
GRATE
GRAVE
GREET
GRILL
GRIN
GROUP
GROWN
GROWTH
GULF
GYM
HAIL
HAM
HAMBURGER
HANDY
HAPPEN
HAPPINESS
HARM
HATCH
HEALTH
HEAT
HEATER
HEAVEN
HEIGHT
HELL
HELPFUL
HERO
HIGHWAY
HIKE
HIND
HIP
HIPPOPOTAMUS
HIVE
HOBBY
HOG
HOLIDAY
HOLLY
HOLY
HOMONYM
HOOD
HOST
HOSTESS
HOUR
HUG
HUGE
HUM
HUMMINGBIRD
HUMP
HUSH
HUT
ILL
IMPORTANT
INCH
INCLINE
INITIAL
INK
INSECT
INTEREST
ISLAND
IVY
JACKET
JAM
JEEP
JET
JOIN
JOKE
JOLLY
JOY
JUG
JUNGLE
KEEPER
KILLDEFR
KIN
KIT
LA
LACK
LAD
LADYBUG
LAG
LAME
LAMP
LANE
LANGUAGE
LATER
LATTER
LAW
LEAK
LEAN
LEAP
LED
LEND
LENT
LESS
LIFE
LIME
LIST
LITTER
LOCKET
LORD
LOSE
LOUSE
LUCKY
LUMP
MACH
MAGIC
MAGNET
MAIN
MALE
MALL
MALT
MAMA
MAMMAL
MANAGER
MANE
MANNER
MAP
MAR
MARE
MARRY
MASH
MASK
MAST
MASTER
MAT
MATE
MATERIAL
MATH
MEMBER
MEMORY
MEND
MENU
METAL
METER
MEW
MI
MIRROR
MISTER
MITT
MITTEN
MOLD
MOLE
MOM
MOMMY
MONSTER
MOOR
MOOSE
MOP
MORE
MOSS
MOTH
MOVIE
MOW
MUG
MUNCH
MURDER
MUSEUM
MUSH
MUTT
NAG
NARROW
NATURE
NAVY
NAY
NEAT
NEGATIVE
NET
NEWS
NINETY
NINTH
NIP
NIT
NOOK
O-CLOCK
OBEY
OCTOPUS
ORBIT
ORDER
ORE
OSTRICH
OWE
OX
OXEN
PAD
PAIN
PAL
PALE
PALL
PALM
PANE
PANT
PAW
PAYLOAD
PEPPER
PERIOD
PERSON
PET
PETAL
PHONE
PHONICS
PILL
PINE
PINT
PISTIL
PISTOL
PIT
PITCHER
PLAN
PLASTIC
PLAYMATE
PLUG
POEM
POETRY
POLL
POOL
POSITIVE
POWER
PRAY
PREVENT
PRICE
PROBLEM
PUFF
PUP
PUZZLE
QUEER
QUESTION
RABIES
RACCOON
RAFT
RAIL
RAM
RANGE
RAP
RATE
RATTLE
RAY
RE
READER
REDWOOD
REED
RENT
REPORT
RICE
RID
RIDDLE
RIP
ROB
ROCKET
ROD
ROOK
ROOT
ROT
RULE
RULER
RUST
SAD
SAFE
SAG
SALE
SAP
SCAT
SCIENCE
SCOUT
SCREAM
SEAGULL
SEAL
SEASHORE
SECRETARY
SEEK
SENSE
SENTENCE
SEPAL
SEVENTH
SEVENTY
SHACK
SHADE
SHAME
SHARE
SHARK
SHEAR
SHOCK
SHOOK
SHORE
SHOUT
SHOWER
SHY
SIGH
SIGHT
SILL
SILLY
SIN
SINCE
SINCERELY
SIP
SIXTH
SIXTY
SKUNK
SLACK
SLOT
SLY
SMART
SMOKEY
SNACK
SNAP
SNIP
SOFA
SOIL
SOLVE
SOMEDAY
SOMEONE
SON
SOX
SPARE
SPARK
SPICE
SPIKE
SPIT
SPOOK
SPOOKY
SPORT
SPY
STABLE
STAFF
STAKE
STALL
STAMEN
STARFISH
STATE
STEEL
STING
STOCK
STREAM
STUDENT
STUDY
STUMP
STUPID
SUB
SUM
SUNG
SUPER
SYSTEM
TAB
TABLET
TACK
TADPOLE
TALE
TALENT
TAME
TANG
TAPE
TAR
TATTLE
TENTH
TEXTURE
THEE
THIRD
THONG
THORAX
THUMP
THY
TI
TICK
TIDE
TINT
TISSUE
TITLE
TOAD
TON
TOT
TOW
TOWARD
TRAFFIC
TRAIL
TRAP
TRAVEL
TREE
TREASURE
TREAT
TRESS
TRIP
TROUBLE
TROUT
TUNE
TWENTY-FIVE
TWENTY-FOUR
TWENTY-ONE
TWENTY-SEVEN
TWENTY-SIX
TWENTY-THREE
TWENTY-TWO
UGLY
UNHAPPY
UNIT
UNITE
VAN
VICE
VILLAGE
VOICE
VOTE
VOWEL
WADE
WAG
WARE
WARN
WEAVE

WEEKLY
WEN
WHALE
WHIP
WIFE
WIG
WIGGLE
WINK
WINNER
WISE
WOMEN
WONDERFUL
WORKBOOK
X-RAY
YELL
ZEBRA
ZERO
ZIP

GRADE
3

ABLE
ACE
ACTION
ADULT
AGENT
AIM
AIRPORT
ALARM
AMPHIBIAN
ANAGRAM
ANTELOPE
ANTENNA
ANYHOW
ANYTIME
APRICOT
ARK
ARMOR
ASH
ASIDE
ATMOSPHERE
ATOM
AUTHOR
AWAKE
AXLE
BACKWARD
BAIL
BAIT
BALD
BALLET
BARD
BARNYARD
BASKETBALL
BASS
BAST
BATTLE
BEAN
BEARD
BEAST
BEAUTY
BECAME
BEDTIME
BEED
BEETLE
BEGUN
BELLY
BELOW
BIRTH
BLADE
BLAME
BLAST
BLOND
BLUEGREEN
BLUR
BOAST
BOG
BOLT
BOMB
BOND
BOOKLET
BORROW
BOUND
BOUT
BOW-WOW
BOXCAR
BRACE
BRAID
BRAN
BRASS
BREEZE
BRIDLE
BROAD
BUCKLE
BUILDER
BUM
BUNDLE
BUNK
CACTUS
CAFE
CAFETERIA
CAM
CAMERA
CAMPER
CANAL
CANNOT
CANON
CANYON
CAPITOL
CARAVAN
CARNIVAL
CARTON
CARTOON
CASH
CATALOG
CATFISH
CATTLE
CEMETERY
CEREAL
CHALKBOARD
CHARGE
CHAT
CHATTER
CHEAT
CHEER
CHEMISTRY
CHILL
CHIME
CHIMPANZEE
CHOCK
CHOICE
CIGAR
CITIZENSHIP
CLASSROOM
CLICK
CLIFF
CLOUDY
COACH
COB
COCK
COD
COIN
COLLECT
COLLECTION
COLUMN
COMBAT
COMET
COMMA
COMMON
COMMUNICATE
COMMUNICATION
COMMUNITY
COMPOUND
CONCENTRATE
CONDENSATION
CONSERVATION
CONTINENT
COON
COPE
COPPER
CORRECT
COUNTY
COURT
COURTESY
COWGIRL
CRAFT
CRAMP
CRANE
CRATE
CRATER
CREDIT
CREEP
CREPT
CRIB
CRICKET
CRIME
CROP
CRUEL
CRUNCH
CRUSADE
CRUSH
CRYSTAL
CUD
CURE
CURSIVE
CYCLE
DAB
DAILY
DAIRY
DAME
DAMP
DARE
DASH
DAUGHTER
DEAL
DEAN
DEMON
DESSERT
DEVIL
DIAL
DICE
DICTIONARY
DIFFERENCE
DIKE
DILL
DINE
DINER
DINOSAUR
DIRECTION
DISCONTENT
DISCOVER
DISK
DISLIKE
DISTANCE
DIVIDE
DIVISION
DODGE
DOE
DOGHOUSE
DOOM
DOPE
DOUBT
DRAGSTER
DRAPE
DROVE
DRUNK
DUE
DUMMY
DUNK
DURING
DUSK
DUSTER
DUSTY
DUTY
EARN
EDITION
EEL
EIGHTH
ELBOW
ELECTRIC
ELM
EMERALD
ENCYCLOPEDIA
ENTER
EQUAL
EQUIPMENT
ERA
EVE
EVENT
EVERGREEN
EVERYTIME
EWE
EXCELLENT
EXPEDITION
EYEBROW
EYELASH
FACIAL
FACTORY
FAD
FAIN
FALCON
FAMOUS
FARE
FASTER
FATE
FAVORITE
FAWN
FEAST
FEE
FENDER
FIB
FINCH
FINDER
FITNESS
FLAIR
FLAVOR
FLAX
FLAY
FLEA
FLEE
FLESH
FLINT
FLOCK
FLOOD
FLOWN
FLUE
FLUFF
FLUNK
FLUTE
FOAM
FOE
FOIL
FOLDER
FOLK
FOND
FOREVER
FORTY-FIVE
FORTY-ONE
FORWARD
FOUL
FRACTION
FRECKLE
FREEDOM
FRIGHTEN
FROLIC
FURRY
FUSE
FUTURE
GADGET
GAG
GAIN
GALL
GALLERY
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GENERAL
GENTLE
GEOGRAPHY
GIN
GIVEN
GLIDE
GLOB
GLORY
GLOW
GOLDFISH
GOODBY
GOODBYE
GRAD
GRADER
GRANDSON
GRANDSTAND
GRANT
GREASE
GREY
GRIND
GRIP
GROOM
GUARD
GUINEAPIG
GUITAR
GUT
HABIT
HACK
HAG
HAIRBAND
HAMSTER
HANDSOME
HANGER
HARDBALL
HARP
HAWK
HEADBAND
HEAL
HEAP
HELD
HELICOPTER
HELPLESS
HERD
HID
HINT
HIRE
HISTORY
HOCKEY
HOLLOW
HOMEWORK
HONK
HONOR
HOOT
HORROR
HOTDOG
HOUND
HOUSEKEEPER
HOWL
HUMAN
HUNTER
HUSBAND
ILLUSTRATE
IMPOSSIBLE
IMPROPER
INDOORS
INN
INTEGRITY
JACK
JERK
JOG
KANGAROO
KEEN
KICKBALL
KILLER
KINGDOM
KNEEL
KNOWLEDGE
KNOWN
LAB
LABEL
LABORATORY
LAIR
LATCH
LAVA
LEAST
LEMONADE
LIAR
LIBERTY
LIBRARIAN
LICE
LIMB
LIMIT
LINEN
LINER
LINK
LISTENER
LIVER
LIZARD
LOBSTER
LOCAL
LOIN
LOLLIPOP
LONE
LONESOME
LOOP
LOOT
LOP
LOPE
LUG
LUNCHBOX
LUNCHPAIL
LUNG
MAM
MARINE
MARKER
MASS
MAW
MAYOR
MEAL
MEANT
MEDIUM
MEMORIAL
MERE
MESSENGER
MESSY
METROPOLITAN
MILLION
MINK
MINT
MIST
MISTRESS
MITE
MIXTURE
MOAN
MOAT
MOBILE
MOCK
MODEL
MODERN
MONITOR
MOOD
MORN
MOTEL
MOTTO
MOWER
MUFF
MULTIPLICATION
MULTIPLIER
MULTIPLY
MURAL
MUSCLE
NAPE
NASTY
NATION
NATIONAL
NECKLACE
NICK
NITROGEN
NOD
NOPE
NORTHWEST
NOTEBOOK
NOUN
NUMERAL
NUN
NUTTY
OCEANOGRAPHY
ODD
ODOR
OFFICER
OLIVE
ONTO
OPPOSITE
ORAL
ORGAN
OUTDOOR
OUTER
OUTFIELD
OW
PACE
PAID
PALACE
PANTHER
PAPPY
PARTICULAR
PASSWORD
PEACE
PEAL
PEARL
PEEK
PENMANSHIP
PEP
PERFECT
PICKER
PIKE
PILOT
PINECONE
PITCH
PIZZA
PLAID
PLANET
PLAT
PLAYER
PLEASANT
PLOP
PLUCK
PLUS
POLITE
POLKADOT
POODLE
POOH
PORCUPINE
PORK
PORT
POSE
POSSIBLE
POSTER
PRACTICE
PRAIRIE
PRANCE
PREACHER
PREFIX
PRINCE
PRINCESS
PRODUCT
PROGRAM
PRONOUN
PROOFREAD
PROTECT
PRUNE
PULP
PUPIL
PUPPET
PURE
PURR
QUART
QUICKLY
QUIZ
QUOTIENT
RADAR
RAGE
RAID
RAISE
RAMP
RANGER
RASH
RECOMMEND
RECORDPLAYER
REEL
RELAY
REPEAT
REPTILE
REWARD
RHYTHM
RIDDEN
RIDER
RIDGE
RIFLE
RIG
RIM
RINK
RISE
RISK
ROAM
ROAR
ROBBER
ROBE
ROBOT
ROUGH
ROUTE
ROWBOAT
RUIN
RUNNER
RURAL
RUT
RYE
SADDLE
SAFETY
SALAMANDER
SALMON
SAMPLE
SANK
SAWDUST
SAWMILL
SCALE
SCAR
SCIENTIST
SCISSOR
SCORE
SCREW
SEASHELL
SEEP
SEPARATE
SERVICE
SEX
SHARPEN
SHARPENER
SHAVE
SHAWL
SHIELD
SHIN
SHOESTRING
SHOVE
SI
SILENT
SIMPLE
SINGER
SINGLE
SIS
SITE
SKILL
SKIPPER

SKULL
SLACKS
SLAM
SLAP
SLAT
SLATE
SLAY
SLEET
SLIGHT
SLIM
SLOB
SLOP
SLOPE
SLOPPY
SLUG
SLURP
SMACK
SMASH
SMOG
SNEAK
SNOOP
SOAK
SOB
SOCIAL
SOFTBALL
SOLE
SOLO
SOMEHOW
SONNY
SOOT
SOP
SORT
SOWER
SPACESHIP
SPEAKER
SPEAR
SPECIAL
SPECK
SPEECH
SPELLER
SPOKE
SPOOL
SPRAY
SPRINKLER
SPRUNG
STACK
STADIUM
STAG
STAIN
STALK
STALLION
STAPLE
STARE
STEEP
STEW
STINK
STOOP
STRAP
STRAY
STREAK
STROKE
STUNT
SUBJECT
SUBMARINE
SUBTRACT
SUCK
SUE
SUNFLOWER
SUNK
SUNLIGHT
SUNSET
SUP
SUPPLY
SURF
SWALLOW
SWAM
SWAN
SWIFT
SWISH
SYLLABLE
TART
TASK
TAT
TAUGHT
TAX
TEASE
TEASPOON
TEE
TEEN
TELEGRAM
TELEVISION
TERMITE
TEST
THERMOMETER
THIRSTY
THIRTY-EIGHT
THIRTY-FIVE
THIRTY-FOUR
THIRTY-NINE
THIRTY-ONE
THIRTY-SEVEN
THIRTY-SIX
THIRTY-THREE
THIRTY-TWO
THROAT
THUNDER
TILE
TIMBER
TINE
TINSEL
TOMBOY
TONE
TOUGH
TOUR
TRAILER
TRANSPORTATION
TRASH
TROOP
TROT
TRUMPET
TRUST
TRUTH
TUBE
TUCK
TWENTY-NINE
TWIG
TWINKLE
TWIST
TYPE
TYPEWRITER
UNDERSTAND
UNIFORM
UNIVERSE
UNIVERSITY
VANILLA
VAT
VERB
VICE-PRESIDENT
VIEW
VISUAL
VITAMIN
VOCABULARY
VOLCANO
WAIL
WALLET
WANDER
WARD
WART
WASP
WATERFALL
WEAK
WEASEL
WEB
WED
WEEP
WEIGHT
WHACK
WHATEVER
WHISPER
WICK
WIDOW
WILDCAT
WILDLIFE
WILT
WINE
WORKSHEET
WORKSHOP
WORN
WORRY
WORSE
WOUND
WRINKLE
WRIST
YEA
ZINC

GRADE
4

ABBREVIATION
ACCIDENT
ACRE
ACTIVITY
ACTOR
AD
ADDEND
ADJECTIVE
ADVERB
AGATE
AGRICULTURE
AIRCRAFT
AIRFORCE
ALBUM
ALE
ALPHABETIZE
ALRIGHT
ALTITUDE
ALUMINUM
ANCHOR
ANGLE
ANKLE
ANNUAL
ANTHROPOD
ANTLER
ANTONYM
ANVIL
ANYPLACE
ANYWHERE
AQUA
AQUARIUM
AREA
ARTIST
ASS
ASSIGNMENT
ASTEROID
ASTRONAUT
ATTACK
ATTEND
AUTOGRAPH
AWARD
AXE
BABOON
BACKSTOP
BACKYARD
BADLY
BALE
BALLOT
BANDAGE
BANDAID
BANJO
BANNER
BARGE
BARLEY
BASH
BATHE
BATTERY
BATTLESHIP
BAZOOKA
BEDROCK
BEHAVE
BELLOW
BILLION
BIN
BIND
BING
BIOLOGY
BLACKTOP
BLASTINGCAP
BLASTOFF
BLAZE
BLEACH
BLEED
BLISTER
BLONDE
BLOODY
BLOWER
BLUEBERRY
BLUFF
BOAR
BOLE
BOMBER
BONY
BOOKCASE
BOOKWORM
BOOMERANG
BOON
BOOR
BOOZE
BOXER
BOYSCOUT
BRA
BRAD
BRAVELY
BREATH
BREATHE
BROIL
BROTHERHOOD
BULLETIN
BULLETINBOARD
BULLY
BURNER
BURP
BURRO
BURST
BUSHEL
BUSS
BUTLER
BUTTERFLIES
BUZZARD
CABLE
CALK
CALM
CAMPFIRE
CANCER
CANTER
CAPSULE
CAPTURE
CARBON
CAREFULLY
CAROL
CARVE
CASKET
CATSUP
CATTAIL
CAUTION
CAW
CELLO
CENTRAL
CENTURY
CERTAIN
CHALLENGE
CHAMBER
CHANNEL
CHAPEL
CHARCOAL
CHARM
CHEAP
CHEEP
CHERRYTREE
CHESS
CHIMP
CHIRP
CHORD
CHORE
CHUBBY
CIDER
CIGARETTE
CINCH
CIRCUIT
CLACK
CLAMP
CLANG
CLARINET
CLASSMATE
CLEVER
CLIPPER
CLOT
CLOTHE
CLUCK
COARSE
COFFIN
COLA
COLE
COLLECTOR
COLONY
COMMERCE
COMPLICATE
COMPUTE
CON
CONCRETE
CONDENSE
CONGRESS
CONIFER
CONSONANT
CONSTELLATION
CONTAINER
CONTENT
CONTINUE
CONTRACT
CONTRACTION
CORAL
CORRAL
COUGAR
COURAGE
COVE
COWARD
COYOTE
CRAWDAD
CREATIVE
CREATURE
CREED
CREST
CRISP
CROCK
CROQUET
CRUST
CUBSCOUT
CUCKOO
CUCUMBER
CUPCAKE
CURLER
CURRENT
CURVE
CUSTODIAN
CUSTOM
CUTTER
CYCLONE
DAFFODIL
DALE
DAYLIGHT
DAYTIME
DEAF
DEALER
DEATH
DECADE
DECIDE
DECIDUOUS
DEFINE
DEFINITION
DEGREE
DETERGENT
DIARY
DICTATION
DIET
DIFFICULT
DIGEST
DIPPER
DIRECT
DISCOVERY
DISCUSS
DISOBEY
DISSOLVE
DISTRICT
DISTURB
DIVER
DIVISOR
DOGWOOD
DOLPHIN
DONG
DOORKNOB
DRAIN
DRAKE
DRAM
DRUG
DRYER
DUD
DUNCE
DUNE
DWARF
DWELLER
DYE
DYNAMITE
EARDRUM
EARRING
EASE
EASEL
EASTERN
EDUCATION
ELDER
ELECTION
ELECTRON
ELECTRONIC
ELEMENTARY
ELEVATOR
ELEVENTH
ELL
EMPIRE
ENAMEL
ENEMY
ENERGY
EQUATION
EVAPORATE
EVERYDAY
EXACT
EXAMPLE
EXCITE
EXHIBIT
EXPERIMENT
EXPLODE
EXPLORER
EYELID
FABLE
FACET
FACTOR
FACULTY
FAINT
FANG
FEAT
FEATURE
FIBER
FICTION
FIFE
FIFTY-ONE
FIFTY-TWO
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FILBERT
FILLY
FINAL
FINALLY
FIREDRILL
FIRETRUCK
FIRM
FIRSTAID
FISHER
FISHERMAN
FLAGPOLE
FLARE
FLASHCARD
FLASHLIGHT
FLEET
FLICK
FLYWAY
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FORMER
FORTUNE
FORTY-EIGHT
FORTY-FOUR
FORTY-NINE
FORTY-THREE
FORTY-TWO
FOSSIL
FOURSQUARE
FRAGILE
FRANK
FREAK
FREEWAY
FREEZER
FRO
FRONTIER
FUDGE
FUEL
FULCRUM
FUZZ
GAIT
GAL
GAMBLE
GANG
GAP
GARMENT
GATHER
GAUGE
GAZE
GENERATOR
GENIUS
GENTLEMAN
GENTLEMEN
GEOLOGIST
GEOLOGY
GEOMETRY
GIGGLE
GIRDLE
GIRLFRIEND
GIRLSCOUT
GLARE
GLEAM
GLEE
GLOOM
GLOOMY
GNAT
GOB
GOBLIN
GONG
GOODNESS
GORGE
GORILLA
GOVERNMENT
GRACE
GRACEFUL
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GRAMMAR
GRASSY
GRAVEL
GRAVESTONE
GRAVITY
GRAVY
GRAZE
GROAN
GROPE
GROSS
GROVE
GROWL
GRUNT
GUIDE
GULL
GUPPY
HAIRPIN
HAIRY
HALE
HALT
HALTER
HANDWRITING
HARBOR
HARMFUL
HARNESS
HART
HASH
HASTE
HEATH
HEIR
HELMET
HEMLOCK
HERB
HICCUP
HIGHSCHOOL
HINGE
HISS
HO
HOARSE
HOLDER
HONE
HOOF
HOOP
HOPPER
HORNET
HORRIBLE
HORSEBACK
HOTROD
HOWEVER
HUNGER
HUSK
HYDROGEN
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IDIOT
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IMAGINE
IMPROVE
INCREDIBLE
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INDUSTRIAL
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INFINITY
INFORMATION
INLAND
INNER
INSPECTOR
INSTRUMENT
INTERCOM
INTERNATIONAL
INTESTINE
INVENT
INVENTION
INVERTEBRATE

IRIS
ITCH
ITEM
JAZZ
JEANS
JEWEL
JOCKEY
JOINT
JOKER
JOURNEY
JUDGE
JUMPER
JUMPROPE
JUNCTION
JUNIOR
JUSTICE
KIDNEY
KILN
KINDLY
KINDNESS
KNIVE
LABOR
LANCE
LARD
LASH
LASS
LATHER
LATITUDE
LAUGHTER
LAVATORY
LAVE
LAWNMOWER
LAWYER
LEASH
LEDGE
LEE
LEER
LEOPARD
LEST
LEVEL
LIGHTEN
LIGHTHOUSE
LIMESTONE
LIPSTICK
LIQUID
LIVINGROOM
LLAMA
LOAN
LOCATION
LODGE
LOGGER
LONELY
LONGITUDE
LOOKOUT
LOOM
LOON
LORE
LOSS
LOTION
LOUDSPEAKER
LOVER
LOWER
LYE
MAGMA
MAKEUP
MANAGEMENT
MANTLE
MARGIN
MAROON
MARRIAGE
MARSHMALLOW
MASCOT
MATHEMATICS
MAZE
MEADOW-LARK
MEDAL
MEEK
MELODY
MERCURY
MESSAGE
METAMORPHIC
METEOR
METHOD
MICROPHONE
MICROSCOPE
MICROSCOPIC
MIDGET
MIDNIGHT
MILKSHAKE
MILLER
MINER
MINERAL
MINOR
MINUS
MISSILE
MISSION
MISTY
MOB
MOIST
MOLAR
MOLECULE
MOLL
MOONLIGHT
MOPE
MOTORCYCLE
MOUND
MOUNT
MUM
MUMBLE
MUMMY
MUMPS
MUSHROOM
MUSKRAT
MUSTANG
MUSTARD
MYSTERY
NATIVE
NATURAL
NECTAR
NEPHEW
NERVE
NERVOUS
NETWORK
NEUTRON
NIBBLE
NIECE
NIGH
NORTHEAST
NORTHERN
NOTICE
NOWHERE
NUGGET
NUMB
NYLON
OBJECT
OKAY
OPERA
OPERATION
ORALLY
OTTER
OUNCE
OUTFIT
OVAL
OVARY
OXYGEN
OYSTER
PANEL
PAPERTOWEL
PAR
PARAGRAPH
PARAKEET
PARE
PATIO
PATROL
PAVEMENT
PEACOCK
PEAK
PEANUT-BUTTER
PEAT
PEBBLE
PEDAL
PEER
PELT
PENGUIN
PENJUIN
PERCH
PERHAPS
PEST
PHANTOM
PHEASANT
PHYSICAL
PICKUP
PIGLET
PIGTAIL
PINETREE
PINTO
PIONEER
PIP
PLANK
PLANTATION
PLASTER
PLATFORM
PLATINUM
PLAYFUL
PLAYTIME
PLEDGE
PLENTY
PLOT
PLY
PLYWOOD
POD
POET
POKER
POLICEMEN
POLKA
POLLEN
POMPUM
PONYTAIL
POPE
POPPER
POPPY
POPSICLE
POPULAR
POPULATION
PORE
PORPOISE
POUCH
POULTRY
POUT
PRIDE
PRIMARY
PRINCIPAL
PRINCIPLE
PRISON
PRIVATE
PROBABLY
PRODUCE
PRODUCTION
PROJECT
PROJECTOR
PROMISE
PRONOUNCE
PROOF
PROTON
PROUD
PROVE
PROVIDE
PUBLIC
PUBLISH
PUDDING
PULLEY
PUN
PUNT
PUTT
PUTTY
QUAIL
QUALITY
QUIETLY
RACER
RACKET
RALLY
RANK
RAPE
RARE
RASPBERRY
RATTLESNAKE
RAVE
REAR
RECORDER
RECREATION
RECTANGLE
REFERENCE
REFRIGERATOR
REIN
RELATION
RELATIVE
REMAINDER
REMIND
REPRESENTATIVE
REPUBLIC
RESEARCH
RESISTANCE
RESOURCE
RESPECT
RESPONSIBILITY
RETURN
REVIEW
RHUBARB
RHYME
RIB
RIND
RITE
ROCKY
RODEO
ROLE
ROMP
ROTATE
ROUT
ROVER
ROYAL
RUBY
RUDE
RUFFLE
RUM
RUMBLE
RUMP
RUNT
RUSH
RUSTY
SAGE
SAINT
SANDDOLLAR
SANDLE
SANDSTONE
SANDY
SASH
SCARF
SCARY
SCENE
SCENT
SCHEDULE
SCIENTIFIC
SCOLD
SCOOP
SCOOT
SCOPE
SCREWDRIVER
SEAHORSE
SEAM
SEASIDE
SEAWEED
SEDIMENTARY
SEE-SAW
SELFISH
SENATE
SERIES
SETTLE
SEWER
SHAD
SHALLOW
SHANK
SHEER
SHELVE
SHERIFF
SHIFT
SHINGLE
SHOELACE
SHONE
SHORTS
SHOWN
SHRIMP
SHRUB
SHUT-UP
SHUTTER
SICKNESS
SIDEWAYS
SIGNATURE
SILVERWARE
SITTER
SKELETON
SKETCH
SKIT
SLANG
SLAVE
SLENDER
SLICK
SLIVER
SLOWLY
SLUMBER
SLUSH
SMEAR
SMOCK
SNAG
SNAPPY
SNARE
SNIFF
SNOB
SNORE
SNOUT
SNUG
SOCCER
SOCIALSTUDIES
SOCKET
SOFTLY
SOL
SOLAR
SOLID
SOMEWHAT
SOT
SOUGHT
SOUL
SOUTHEAST
SOUTHWEST
SOWN
SPAT
SPEND
SPENT
SPINE
SPIRAL
SPLAT
SPLIT
SPOTLIGHT
SPRUCE
SPUN
STALE
STAPLER
STARCH
STARVE
STATUE
STEADY
STEELHEAD
STERN
STINGRAY
STIRRUP
STOLEN
STORK
STOUT
STRAIN
STRAIT
STRANGE
STRANGER
STRENGTH
STUD
STUDIO
STURDY
SUBTRACTION
SUBWAY
SUDDEN
SUDDENLY
SUFFER
SUFFIX
SUMMIT
SUNGLASS
SUNRISE
SURELY
SURFACE
SURFBOARD
SWEETHEART
SWINGSET
SYMBOL
SYNONYM
SYRUP
TAFFY
TALKER
TALLER
TARE
TARGET
TEAPOT
TEENAGER
TELEGRAPH
TELESCOPE
TEMPER
TEMPERATURE
TENDER
TERRITORY
TERROR
TETHERBALL
TEXT
THAW
THEATER
THEME
THIEF
THIGH
THORN
THOUGHTFUL
THRILL
THRONE
THROWN
TIC
TIDY
TIER
TILT
TIMER
TIMID
TINGLE
TINKER
TOASTER
TOBACCO
TOG
TOLL
TOMB
TOMCAT
TONE
TONG
TONSIL
TOSS
TOTAL
TRASHCAN
TREEHOUSE
TRILLION
TRIPLE
TROMBONE
TROUSER
TRULY
TUMBLE
TURQUOISE
TWENTY-EIGHT
TWILIGHT
TWINE
TWIRL
UNDRESS
UNLIKE
UNTO
UNUSUAL
UPSTAIR
USUALLY
VACUUM
VAIN
VALUE
VAMPIRE
VANE
VAPOR
VAST
VEIN
VENEER
VENT
VENTURE
VERTEBRATE
VEST
VIOLA
VOLT
VOLUME
VOYAGE
WAD
WALE
WALKER
WALTZ
WASHER
WASTEBASKET
WEAVER
WEDGE
WEEKEND
WESTERN
WHEREVER
WHIRL
WHISKEY
WISELY
WIST
WIT
WITHIN
WIZARD
WOE
WOO
WOODCHUCK
WORKER
WORST
WORTH
WOW
WRAPPER
WRENCH
WRIT
WRITER
WRITTEN
YAM
YIPE
YOUTH
ZIGZAG
ZIPPER

GRADE 5

ABBREVIATE
ABILITY
ACCENT
ACCORDION
ACID
ACROBAT
ACTRESS
ACTUAL
ACUTE
ADJUST
ADJUSTMENT
ADMIRE
ADORE
AERIAL
AFFECT
AFTERWARD
AGENCY
AGREE
AIRLINE
AIRMAIL
AISLE
ALCOHOL
ALFALFA
ALGAE
ALLOW
ALMOND
ALOUD
ALTHOUGH
ALTO
ALTOGETHER
ALWAY
AMBER
AMEBA
AMONG
AMOUNT
AMPLIFIER
ANATOMY
ANCIENT
ANGER
ANNOUNCEMENT
ANTEATER
ANTHER
ANXIOUS
APPEAR
APPLESAUCE
APPLY
APPRECIATE
ARCH
ARENA
ARGUE
ARRANGE
ARTERY
ARTICLE
ARTIFICIAL
ARTISTIC
ASHTRAY
ASPHALT
ASSEMBLY
ASTONISH
ASTRONOMY
ATOMIC
ATTENDANCE
ATTENTION
AUDITORIUM
AUTOBIOGRAPHY
AUTOMATIC
AVERAGE
AYE
BABYSITTER
BACKGROUND
BACTERIA
BADE
BALANCE
BALCONY
BAMBOO
BANDIT
BARELY
BAROMETER
BARROW
BASIN
BATCH
BAUXITE
BEATER
BEDSPREAD
BEEHIVE
BEGGAR
BEHOLD
BENEATH
BERET
BEWITCH
BILLFOLD

BINDER
BIOGRAPHY
BITTEN
BLADDER
BLAM
BLOCKADE
BLOT
BLUBBER
BOA
BOBBYPIN
BOLOGNA
BOOKSHELF
BOOSTER
BORDER
BOUGH
BOWEL
BRAVERY
BRIEF
BRIG
BRIM
BROTH
BRUISE
BRUNETTE
BUFF
BULLDOZER
BUMBLE
BUMPER
BUMPY
BUNT
BURY
BUTT
BUZZER
CAD
CADDY
CALYX
CAMPUS
CANDID
CANISTER
CANNERY
CANTEEN
CARBURETOR
CARGO
CARP
CARPORT
CASHEW
CAVEMAN
CELEBRATE
CENTIMETER
CHAMP
CHAMPION
CHAP
CHAR
CHARITY
CHEERFUL
CHEF
CHEMICAL
CHICKENPOX
CHISEL
CHLOROPHYLL
CHORUS
CHOSE
CHOW
CINDER
CINNAMON
CIVIL
CLAD
CLAIM
CLAN
CLASH
CLATTER
CLEAVER
CLERK
CLIMATE
CLING
CLINIC
CLIPBOARD
CLOG
CLOP
CLOTHING
CLOVE
CLUMP
CLUMSY
CLUTCH
COBBLER
COBRA
COCOON
CODFISH
COIL
COLLIE
COLON
COLONEL
COLORFUL
COMBINE
COMFORTABLE
COMMAND
COMPASS
COMPETE
COMPOSE
CONCERN
CONCERT
CONDUCT
CONSIDERATE
CONSTITUTION
CONSUMER
CONTACT
CONTRARY
CONTRIBUTE
CONTROL
CONVERSATION
CORNBREAD
CORNET
CORONET
CORRECTION
CORRECTLY
COSTUME
COUNCIL
COZY
CRANKSHAFT
CRAPE
CREAK
CREATE
CREEPY
CREPE
CRIMINAL
CROSSWALK
CROUCH
CRUDE
CRUISE
CUBBYHOLE
CUFF
CULTURE
CUPID
CURB
CURD
CURSE
CUTOFF
CYLINDER
DAINTY
DAMAGE
DANGEROUS
DATA
DAVENPORT
DAZE
DEADLY
DEBT
DECIMAL
DECLARE
DEFENSE
DELICIOUS
DELIGHT
DELIVER
DELTA
DEMAND
DENOMINATOR
DENSE
DEPEND
DEPOSIT
DEPTH
DERBY
DESCRIBE
DESIRE
DESTROY
DESTROYER
DESTRUCTION
DETAIL
DIAGRAM
DIAMETER
DIAPER
DIESEL
DIFFER
DIN
DIOXIDE
DISAPPEAR
DISC
DISEASE
DISHWASHER
DISMISS
DISMISSAL
DISPLAY
DISPOSAL
DISTRESS
DISTRIBUTE
DISTRIBUTOR
DIZZY
DOODLE
DOORBELL
DOORWAY
DOWNSTAIRS
DOZE
DRAFT
DRAGONFLY
DRAMA
DRAPERY
DRAY
DRIFT
DRIVEWAY
DROOP
DRYCELL
DUCHESS
DUDE
DUMPLING
DWELL
EAGER
EARTHQUAKE
EATER
ECHO
EDITOR
EFFECT
EL
ELECT
ELECTRICAL
ELEMENT
EMERGENCY
ENCLOSE
ENDANGER
ENGAGE
ENORMOUS
ENTRANCE
ENVIRONMENT
ENVY
ESCAPE
ESPECIALLY
ESSAY
EVIL
EXAMINATION
EXAMINE
EXCITEMENT
EXCLAIM
EXCLAMATION
EXHAUST
EXPERT
EXPLAIN
EXPLANATION
EXPLOSION
EXPLOSIVE
EXPORT
EXTINCT
EYEBALL
FABULOUS
FAG
FALLOUT
FANNY
FANTASTIC
FARMHOUSE
FASCINATE
FASHION
FATHOM
FAULT
FAVOR
FEELING
FERTILIZER
FETCH
FEVER
FIELDTRIP
FIEND
FIERCE
FIGHTER
FILAMENT
FILTER
FIREBALL
FIRECRACKER
FISHBOWL
FISHINGPOLE
FLAK
FLAMMABLE
FLANK
FLIPPER
FLIRT
FLOUNDER
FLUFFY
FLUID
FLUNG
FLUSH
FLUTTER
FOCUS
FORD
FOREHEAD
FOREIGN
FORELOCK
FORLORN
FOUNDATION
FOWL
FRICTION
FRIENDSHIP
FRONTWARD
FROSTY
FULLY
FUMBLE
FUND
FUNERAL
FUNGI
GAB
GALAXY
GALE
GALLEY
GARGLE
GASP
GENEROUS
GLACIER
GLADE
GLAND
GLITTER
GLOAT
GOLFBALL
GOOD-BYE
GOPHER
GORGEOUS
GOURD
GOVERNOR
GRANITE
GRAPH
GREEDY
GREENHOUSE
GRIM
GRIPE
GRIT
GROWNUP
GULLY
GULP
GUTTER
GYMNASIUM
GYPSY
HAIRCUT
HAMPER
HANDBAG
HARDY
HARK
HARMONICA
HARMONY
HAUNT
HAW
HEADACHE
HEADLIGHT
HEARTY
HEAVE
HELIUM
HEMISPHERE
HERMIT
HERRING
HIGHLAND
HILLSIDE
HOARD
HOBO
HOLSTER
HOMELY
HOMER
HOMERUN
HONESTY
HORIZON
HORIZONTAL
HORMONE
HORRID
HOTLUNCH
HOWDY
HUB
HUE
HULL
HURRICANE
HUSTLE
HYDROELECTRIC
HYDROMETER
HYDROPLANE
HYMN
ICEBOX
ICESKATE
ICY
ID
IDENTIFY
IDIOTIC
IGLOO
IMP
IMPORT
INCLUDE
INCUBATOR
INDEED
INDENT
INDEPENDENCE
INDEPENDENT
INFANT
INFORM
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INSANE
INSTANT
INSTRUCTION
INSURANCE
INTELLIGENT
INTEND
INTERROGATIVE
IODINE
ISLE
ISSUE
IVORY
JACK-IN-THE-BOX
JACKASS
JACKKNIFE
JACKRABBIT
JAGUAR
JEWELRY
JINGLE
JINX
JOYFUL
JUDO
JUGGLE
JUMBO
JURY
KAYAK
KELP
KERNEL
KETCHUP
KINK
KNUCKLE
LAIN
LANOLIN
LAUNCH
LEACH
LEAGUE
LEASE
LEGEND
LEGISLATURE
LEI
LENGTH
LENS
LICENSE
LIGHTBULB
LIMP
LINGER
LINT
LIQUOR
LITERATURE
LIVELY
LOBBY
LOCATE
LOFT
LOUNGE
LOYAL
LURE
MACHINEGUN
MADAM
MAGNIFICENT
MAIDEN
MAJOR
MANAGE
MANSION
MANUFACTURE
MARGARINE
MARIGOLD
MARROW
MARSH
MARSHAL
MASCULINE
MATURE
MATURITY
MEAD
MEASLES
MEASUREMENT
MECHANICAL
MELLOW
MELON
MEMBRANE
MENTAL
MERCY
MERIDIAN
MERMAID
MICROBE
MID
MIGHTY
MILD
MILKY
MILLIMETER
MINISTER
MIRACLE
MISCELLANEOUS
MISCHIEF
MISERY
MONUMENT
MORAL
MOTION
MOVEMENT
MOVIESTAR
MUSICAL
MUSICIAN
MUSKET
MYTH
NAUGHT
NEATNESS
NEE
NEIGH
NEIGHBORHOOD
NEON
NONFICTION
NOODLE
NORMAL
NOSEY
NOSTRIL
NOVEL
NUCLEAR
NUMERATOR
OBLONG
OBOE
OBTUSE
OCCUPATION
OFFER
OFFICIAL
OMIT
ONWARD
OPENING
OPERATE
OPERATOR
ORCHARD
ORCHID
ORDERLY
ORGANIZE
ORPHAN
OUTLAW
OUTLET
OUTLINE
OVERDUE
OVERHEAD
OVULE
OWNER
PACKET
PAINTBRUSH
PAJAMA
PAMPHLET
PAP
PAPOOSE
PARACHUTE
PARALLEL
PARLOR
PASSAGE
PASTOR
PASTRY
PATIENT
PATRIOT
PAVE
PECAN
PEDDLE
PEDDLER
PENINSULA
PERCENT
PERFORM
PERFORMANCE
PERIMETER
PERMISSION
PERSONAL
PERSONALITY
PETROLEUM
PHASE
PHONOGRAPH
PHOTO
PHOTOGRAPH
PHOTOSYNTHESIS
PHRASE
PICK-UP
PICKET
PIER
PIERCE
PIGPEN
PIMPLE
PINGPONG
PIRATE
PISTON
PIXIE
PLANTER
PLATEAU
PLEA
PLEAD
PLEASURE
PLEAT
PLUMBER
PLUMP
PLUNGE
PLURAL
POINTER
POISONOAK
POLAR
POLITICAL
POLLIWOG
PORKCHOP
PORTRAIT
POSITION
POSSIBLY
POSTAGE
POST-CARD
POSTSCRIPT
POSTURE
POTASH
POTTERY
POWERFUL
PRAISE
PRANK
PREACH
PRECIOUS
PREDICATE
PREPARE
PREVENTION
PROCESS
PROCLAIM
PROFESSOR
PROGRESS
PROP
PROPER
PROPERTY
PROSPECT
PROTECTION
PROTRACTOR
PROVINCE
PSYCHOLOGY
PUMICE
PUNCTUATION
PUNK
PURPOSE
PYRAMID
QUARTZ
QUOTATION
QUOTE
RADIATION
RADIUM
RAFTER
RAINDROP
RAPID
RAVEN
RAYON
RAZOR
REACTION
REACTOR
RECEIVE
REDHEAD
REEF
REFLECT
REFRESH
REGION
REGISTER
RELAX
RELEASE
RELIEF
RELIGION
RELISH
REMAIN
REMARK
REMOVE

E6

REPAIR
REPAY
REPLAY
REPRESENT
RESCUE
RESERVATION
RESORT
RESTAURANT
RESULT
RETARD
REVERSE
REVOLUTIONARY
REWRITE
RHODODENDRON
RINSE
RIOT
RISEN
RIVAL
RODENT
ROMANCE
ROSTER
RUBBERBAND
RUDDER
RUNAWAY
SADNESS
SALESMAN
SALTY
SANDDUNE
SANE
SANITARY
SATE
SATELLITE
SATIN
SATISFY
SAVAGE
SAXOPHONE
SCALP
SCARCE
SCARECROW
SCENERY
SCHEME
SCHOLASTIC
SCHOOLROOM
SCRAMBLE
SCRAPBOOK
SCREECH
SCRIPT
SCRUB
SCUFF
SEAR
SEARCH
SECONDARY
SEDIMENT
SEGMENT
SELVES
SENTIMENTAL
SERGEANT
SERIOUS
SETTLEMENT
SEWAGE
SHADY
SHAFT
SHALE
SHAMPOO
SHARPENER
SHELTER
SHERRY
SHIRE
SHIVER
SHORTSTOP
SHREW
SHRINK
SIFT
SILENCE
SILICON
SILO
SIMMER
SIRE
SKYSCRAPER
SLAB
SLAIN
SLEW
SLING
SLINK
SLOTH
SLUM
SMOTHER
SNATCH
SNIPER
SNORKEL
SNORT
SOAR
SOCIETY
SOD
SOGGY
SOLARSYSTEM
SOMEWAY
SORROW
SOURCE
SOUTHERN
SPAN
SPAR
SPARKLE
SPECIMEN
SPEEDOMETER
SPHERE
SPIRIT
SPLENDOR
SPORE
SPOUT
SPUD
SPUR
SQUID
STAB
STAGECOACH
STANDARD
STATIONARY
STATIONERY
STENCIL
STEREO
STIGMA
STILE
STOMP
STOREHOUSE
STORMY
STOW
STRANGLE
STRATUS
STRETCH
STRIFE
STROLL
STROLLER
STRUT
STUB
STUBBORN
STY
STYLE
SUBSTANCE
SUGAR-CANE
SUGGEST
SUICIDE
SUITCASE
SULFUR
SULK
SULPHUR
SUNDOWN
SUPERINTENDENT
SUPERIOR
SURGERY
SWAMP
SWAT
SWAY
SWEATSHIRT
SWINE
SWIRL
TACKLE
TANGERINE
TANGLE
TAPERECORDER
TARP
TECHNIQUE
TEENAGE
TEESHIRT
TELETYPE
TEMPLE
TENDON
TENSE
TERM
TERRIFIC
TEXTBOOK
THANKFUL
THEMSELVES
THEORY
THINNER
THREAT
THRUSH
THUD
TILLER
TOENAIL
TOIL
TOPIC
TOPPER
TORCH
TORNADO
TOTEM
TOTEMPOLE
TRAIT
TRANSPORT
TREMBLE
TRENCH
TREND
TRICKLE
TRIGGER
TROPHY
TROPIC
TROPISM
TRUSTWORTHY
TUBA
TUGBOAT
TUNA
TUSK
TUTOR
TWEET
TWISTER
UMPIRE
UNDERSTOOD
UNDO
UNEVEN
UNEXPECTED
UNICORN
UNION
UNKNOWN
UNLOCK
UNSANITARY
UPPER
URANIUM
USEFUL
USELESS
VALE
VALUABLE
VANISH
VANITY
VARY
VEGETATION
VEIL
VERSE
VERTICAL
VESSEL
VINYL
VISION
VOCAL
VULTURE
WADDLE
WAFFLE
WALLPAPER
WALRUS
WASHCLOTH
WASTEPAPER
WATERCOLOR
WATT
WEALTH
WEARY
WEIRD
WEPT
WHEY
WHISKY
WHIT
WHITTLE
WIDTH
WILDERNESS
WITHER
WORSHIP
WREATH
WRESTLE
YANK
YARDSTICK
YEAH
YEAST
YELP
YOKE
YOLK
YOURSELVES
YOYO

GRADE 6

AARDVARK
ABNORMAL
ABRUPT
ACCEPT
ACCOMPANY
ACCOMPLISH
ACCOUNT
ACCURATE
ACTIVE
ADOLESCENT
ADVANCE
ADVANTAGE
ADVERTISE
ADVICE
ADVISE
AFFAIR
AFT
AGONY
AIL
AILERON
AIRFOIL
ALERT
ALGEBRA
ALLOWANCE
ALLOY
ALLURE
ALLY
ALMANAC
ALOFT
ALP
ALTER
ALUMNI
AMAZE
AMBULANCE
AMEN
AMMUNITION
AMP
AMPLE
AMUSE
AMUSEMENT
ANCESTOR
ANGELIC
ANGLEFISH
ANGLER
ANIMATE
ANTIBIOTIC
ANTIQUE
APHID
APPARATUS
APPARENT
ARID
ARISE
ARRIVE
ASBESTOS
ASPIRIN
ASSOCIATE
ASSOCIATION
ASTER
ASTRONOMER
ATHLETE
ATHLETIC
ATTACH
ATTAIN
ATTENDANT
ATTITUDE
APPARENTLY
APPEAL
APPEARANCE
APPENDIX
APPETITE
APPLAUSE
APPOINT
APPOINTMENT
APPRENTICE
APPROVE
APPROXIMATE
APT
ARC
ARCHEOLOGY
ARCHERY
ARCTIC
ATTORNEY
ATTRACT
ATTRACTIVE
AUBURN
AUDIO
AURICLE
AUTOHARP
AVIATION
AVOCADO
AWARE
AWE
AZALEA
BABE
BALK
BALLAD
BALLROOM
BALSA
BANQUET
BARB
BARBELL
BARGAIN
BARITONE
BARKER
BARON
BARRACK
BARREN
BASEMAN
BATON
BEACON
BEAGLE
BEAKER
BEECH
BEY
BIBLIOGRAPHY
BICEP
BICUSPID
BARRETTE
BIKINI
BILE
BISON
BLACKCAP
BLAND
BLEACHER
BLEAK
BLISS
BLIZZARD
BLOB
BLUSH
BOARDER
BONANZA
BONEY
BONFIRE
BOOST
BORAX
BOTANY
BOULDER
BOULEVARD
BOUNDARY
BOUNTY
BOURBON
BOWTIE
BRACKET
BREAKER
BRED
BREED
BREW
BRIEFCASE
BRILLIANT
BRINK
BRITTLE
BRONCO
BRONZE
BROOD
BUCCANEER
BUCKER
BUDGE
BULGE
BURDEN
BURGLAR
BURROW
CALCIUM
CALIBER
CALLER
CAMPAIGN
CAMSHAFT
CANCEL
CANNIBAL
CANOPY
CAPER
CAPTIVE
CARBONDIOXIDE
CARIBOU
CARICATURE
CARRIER
CARTRIDGE
CATALOGUE
CATHOLIC
CAVERN
CAVITY
CEAR
CEASE
CENTRIFUGAL
CHANT
CHAPTER
CHARGER
CHARIOT
CHECKERBOARD
CHEETAH
CHEMIST
CHICLE
CHILI
CHIVE
CHROME
CHUCKLE
CHUG
CHUTE
CIRRUS
CITRUS
CIVILIZATION
CLASP
CLEANSER
CLEF
CLINK
CLUSTER
COCKPIT
COCKTAIL
COG
COLLAGE
COLLAPSE
COLLEGIATE
COMBINATION
COMBUSTION
COMEDIAN
COMEDY
COMFORT
COMICAL
COMMANDER
COMMENT
COMMERCIAL
COMMISSION
COMMITTEE
COMMUNISM
COMMUNIST
COMPARE
COMPARTMENT
COMPETITION
COMPLAIN
COMPLAINT
COMPOSER
COMPOSITION
COMPUTER
CONCENTRIC
CONCEPT
CONDITION
CONFIDE
CONFIDENCE
CONFUSE
CONGRATULATION
CONGRUENT
CONJUNCTION
CONNECT
CONQUER
CONSCIENCE
CONSENT
CONSERVE
CONSIDER
CONSTRUCT
CONSTRUCTION
CONSULT
CONTAIN
CONTEST
CONTEXT
CONTINENTAL
CONTRACTOR
CONTRAST
CONVERSE
CONVERT
CONVICT
CONVINCE
COOPER
COOPERATE
COPRA
COPYRIGHT
CORNEA
CORPORAL
CORPORATION
CORPS
CORRESPONDENCE
CORRIDOR
COSMIC
COUNSELOR
COURTEOUS
COURTSHIP
COWHIDE
COY
CRACKLE
CRAWFISH
CREATION
CREVICE
CRINKLE
CRIPPLE
CRUISER
CRUSADER
CRUTCH
CUBIC
CUDDLE
CUE
CUMULUS
CUNNING
CUR
CURIOUS
CUSHION
CUSTOMER
DAGGER
DECAY
DECEASE
DECENT
DECISION
DECLARATION
DECLARATIVE
DECREASE
DEMOCRACY
DEMOCRATIC
DEMOLISH
DEPART
DEPENDABLE
DEPRESS
DEPUTY
DESCENT
DESCRIPTION
DESPISE
DETECTIVE
DETENTION
DEVELOP
DEVELOPMENT
DEVICE
DICTATE
DICTATOR
DIGESTIVE
DIGIT
DIMENSION
DIMPLE
DINGY
DISAGREE
DISAPPOINT
DISCOUNT
DISCUSSION
DISECT
DISGUST
DISMOUNT
DIVIDER
DIVORCE
DOCUMENT
DOMAIN
DOMESTIC
DORMITORY
DRAGSTRIP
DRAINBOARD
DRAMATIC
DRAWN
DREAD
DREARY
DREDGE
DROOL
DROUGHT
DUCKLING
DUGOUT
DUMBBELL
DYNAMIC
EASILY
EBB
ECLIPSE
ECONOMIC
ECONOMY
ECSTASY
EDIBLE
EDUCATE
EFFORT
EJECT
ELASTIC
ELEGANT
ELEVATION
ELIMINATE
ELLIPTICAL
EMBLEM
ENFORCEMENT
ENGAGEMENT
ENJOYMENT
ENROLLMENT
ENTERTAIN
ENTERTAINMENT

ENTIRE
ENTRY
EPIDEMIC
EQUATOR
EQUILATERAL
EROSION
ERR
ERROR
ERUPT
ESOPHAGUS
ESTABLISH
ESTABLISHMENT
ETERNAL
EVAPORATION
EVIDENCE
EXACTLY
EXAGGERATE
EXAM
EXCLAMATORY
EXIST
EXOSPHERE
EXPAND
EXPENSIVE
EXPERIENCE
EXPLORATION
EXPONENT
EXTRAORDINARY
EXTREME
FABRIC
FAILURE
FALLOW
FAMISH
FARAWAY
FEDERAL
FELINE
FERTILE
FESTIVAL
FETLOCK
FIBERGLASS
FILLER
FINANCE
FIORD
FIREHOUSE
FIREWORKS
FISSION
FIXTURE
FLASK
FLED
FLINCH
FLOG
FLORIST
FLUSTER
FULLY
FORECAST
FORMAL
FORMULA
FORTUNATE
FORTY-SIX
FOSTER
FOUNDER
FRACTURE
FRANTIC
FRENCHFRY
FRET
FRILL
FRONTROOM
FUGITIVE
FUME
FUNCTION
FUNGUS
FUNNEL
FURIOUS
FURTHER
FURY
FUSELAGE
GALLANT
GARB
GARDENER
GARDENIA
GARLIC
GASKET
GELDING
GENERATION
GENT
GEOGRAPHIC
GEOMETRIC
GERUND
GHASTLY
GIGANTIC
GIRTH
GIZZARD
GLANCE
GLAZE
GLEN
GLOSS
GNU
GOCART
GOLDFINCH
GORE
GOSSIP
GRADUATE
GRADUATION
GRAFT
GRANDMOM
GRANGE
GRASP
GRASSLAND
GRID

GRIEF
GRIME
GROUCH
GROUNDHOG
GROUSE
GROUT
GRUMPY
GUEST
GUILTY
GUNPOWDER
GUST
HACKAMORE
HALF-DOLLAR
HALIBUT
HALLWAY
HAPPILY
HARDWOOD
HARVEST
HATEFUL
HAVEN
HAYLOFT
HEADBOARD
HEADLINE
HEALTHFUL
HEARSE
HEATHER
HEDGE
HEED
HEIFER
HEROINE
HEXAGON
HIGHJUMP
HILARIOUS
HISTORIC
HISTORICAL
HOAR
HOCK
HOD
HOLLER
HOMESICK
HOMESTEAD
HONEST
HONEYCOMB
HONEYMOON
HOPEFUL
HOPSCOTCH
HOUSEHOLD
HOVER
HUBCAP
HULA
HUMID
HUMIDITY
HUMOR
HUMOROUS
HUMUS
HUNCH
HURDLE
HURRAY
HUSKY
HUTCH
HYGIENE
HYPHEN
IDLE
IDOL
IGNITION
IGNORANT
ILLUSTRATION
IMAGE
IMMEDIATELY
IMMENSE
IMPERATIVE
IMPLY
IMPROVEMENT
INCOMPLETE
INDIGESTION
INDIRECT
INDIVIDUAL
INDIVISIBLE
INFECTION
INFLUENCE
INJECTION
INLET
INQUIRE
INSPECT
INSPIRE
INSTRUCTOR
INSULATION
INSULT
INTEGER
INTELLECTUAL
INTELLIGENCE
INTERIOR
INTERJECTION
INTERMEDIATE
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INTERNAL
INTRODUCE
INTRODUCTION
INVENTOR
INVERT
INVESTMENT
INVISIBLE
INWARD
IONOSPHERE
JAB
JADE
JAGGED
JAVELIN
JEALOUS
JELL

JIGSAW
JUDGEMENT
JUGGLER
JUVENILE
KARATE
KETCH
KIDNAP
KILOMETER
KNAT
KNAVE
KNEAD
KNEESOCK
LADLE
LAGOON
LANDSCAPE
LAUNCHER
LAYER
LEA
LECTURE
LEOTARD
LIGAMENT
LIGHTER
LIGHTSWITCH
LIKENESS
LIMBER
LIMOUSINE
LITER
LIVESTOCK
LOCOMOTIVE
LOLLYPOP
LOUSY
LOWLAND
LUMINOUS
LUNAR
LUNCHEON
LYNCH
LYNX
MACARONI
MADAME
MAGICIAN
MAHOGANY
MAINLY
MAJESTIC
MAJORITY
MALARIA
MALLARD
MAMMY
MANGANESE
MANGLE
MANGO
MANLY
MANOR
MARINER
MARLIN
MARVELOUS
MASON
MASSACRE
MAXIMUM
MECHANIC
MEDICAL
MEDULLA
MEMO
MENACE
MENTION
MERCHANT
MERIT
METEORITE
METRIC
MICA
MIGRATE
MIGRATION
MILITARY
MINGLE
MINIMUM
MINORITY
MISER
MISERABLE
MOCCASIN
MOISTURE
MOLLUSK
MOLTEN
MOMENT
MONARCH
MONASTERY
MONGREL
MONK
MONOPLANE
MONOPOLY
MONORAIL
MORON
MORTAR
MOSAIC
MOSQUE
MOSQUITO
MUCK
MUFFLER
MUSCULAR
MUSS
MUSTACH
MUTE
MUTTER
MUTUAL
MYSTERIOUS
NARCOTIC
NAVIGATE
NECESSARY

NECKLESS
NEEDY
NEGLECT
NETTLE
NICELY
NIGHTIME
NIL
NIPPY
NITRATE
NOBLE
NONSENSE
NOOSE
NORTHSOUTH
NOSECONE
NUCLEUS
NUDGE
NUMEROUS
OBEDIENT
OBSERVATORY
OBSERVE
OBSIDIAN
OCCUPY
OCTAGON
ODDBALL
OMELET
OPAL
OPTICAL
ORDINARY
ORGANIC
ORIGIN
ORLON
ORNAMENT
OUTBOARD
OUTFIELDER
OUTHOUSE
OVERCOAT
OXFORD
OXIDIZER
PADDOCK
PAGEANT
PAMPER
PANIC
PANTRY
PANTY
PAPERCLIP
PAPERCUTTER
PARAMECIUM
PARTIAL
PARTLY
PASTEL
PATIENCE
PATRIOTIC
PATTER
PATTY
PAWN
PAYMENT
PEACEFUL
PEDESTRIAN
PEDIGREE
PENALTY
PENPAL
PENTAGON
PEON
PEONY
PEPPERMINT
PERCUSSION
PERIODIC
PERISH
PERMANENT
PERPENDICULAR
PERSONIFICATION
PETUNIA
PHILOSOPHY
PHOTOGRAPHY
PHYSIC
PHYSICS
PICCOLO
PILLAR
PIPER
PITY
PLAQUE
PLAYPEN
PLAYSHED
PLAZA
PLUMB
PLUME
PNEUMONIA
POISONOUS
POLEVAULT
POLIO
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POLLUTION
POLO
POLYGON
PORTABLE
PORTFOLIO
POSSUM
POUNCE
POVERTY
PRECIPITATION
PREDICT
PREFER
PREFORM
PREHISTORIC
PREPOSITION

PRESERVE
PRESSURE
PRICK
PRIEST
PRIME
PRINTER
PRISM
PRISONER
PROBE
PROMOTE
PROPELLANT
PROPELLOR
PROSPEROUS
PROTEIN
PROTOPLASM
PROTOZOA
PROWL
PUBLISHER
PULSE
PUNISH
PUSS
PUTTER
QUADRILATERAL
QUALITY
QUARRY
QUENCH
QUILL
QUIVER
RADIANT
RADIUS
RAIDER
RAILWAY
RAINCOAT
RAINFALL
RAMBLE
RAPIDLY
RASCAL
RATIO
RAVENOUS
REALIZE
RECALL
RECEIVER
RECENT
RECIPROCAL
RECITAL
RECITE
RECOVER
REGISTRATION
REHEARSAL
REIGN
RELATE
RELIABLE
RELIEVE
REMARKABLE
REMINDER
REMOTE
RENEW
REPLACE
REPLY
REPORT-CARD
REPORTER
REQUEST
RESERVE
RESET
RESERVOIR
RESIDENT
RESIGN
RESIST
REEK
REFER
REFILL
REFLECTION
RETINA
RETIRE
REVERENT
REVIVE
REVOLUTION
REVOLVE
REVOLVER
RHOMBUS
RIDICULOUS
RIPPLE
ROACH
ROCKER
ROE
ROMANTIC
ROOT-BEER
ROTATION
ROVE
RUMOR
RUNWAY
SACRED
SACRIFICE
SAGEBRUSH
SALARY
SALON
SALOON
SAPHIRE
SARCASTIC
SARDINE
SATISFACTORY
SAUSAGE
SAVER
SCHOONER
SCRIBE
SCUM

SCURRY
SEALION
SEAPLANE
SECTION
SECURITY
SELDOM
SELECT
SELECTION
SELLER
SENATOR
SENIOR
SERF
SERIAL
SERPENT
SERUM
SERVANT
SEVER
SEVERE
SHAG
SHAGGY
SHAM
SHANTY
SHIMMER
SHIPMENT
SHOD
SHOEBOX
SHOEHORN
SHOWDOWN
SHUCK
SIEVE
SIMILAR
SIMILE
SINCERE
SINGULAR
SINKER
SIREN
SKILLET
SKIM
SKYLINE
SLAUGHTER
SLEEK
SLEEPINGBAG
SLOOP
SLOUGH
SLUMP
SMELT
SMUDGE
SMUG
SNICKER
SODIUM
SOLUTION
SOMEPLACE
SOMETIMES
SOOTH
SOPRANO
SPACECRAFT
SPACEMAN
SPAGHETTI
SPARKPLUG
SPECTACULAR
SPED
SPINAL
SPITE
SPOOF
SPORTSMANSHIP
SPRINT
SPRITE
SQUAD
SQUAT
SQUEAL
SQUEEK
SQUIRE
SQUIRM
STABILIZER
STAIRCASE
STAIRWAY
STANDBY
STARBOARD
STARK
STATEMENT
STEAD
STEAMER
STEAMSHIP
STICKER
STILT
STINGER
STOPPER
STORAGE
STRATOSPHERE
STRICT
STRIDE
STRUCTURE
STRUGGLE
STUBBY
STUFFY
STUPENDOUS
STUPIDITY
SUBSTITUTE
SUBTRAHEND
SUCCESS
SUITE
SUMMARY
SUNBURN
SUNDIAL
SUPERLATIVE

SUPERSONIC
SUPPORT
SUPREME
SURFER
SURGEON
SURROUND
SURVEY
SWEAR
SWEEPSTAKE
SWEPT
SWIMMER
SWIPE
SWORN
SYMPHONY
SYNTHETIC
TACT
TAMP
TAPIOCA
TAVERN
TEDIOUS
TELLER
TEMPERA
TEMPERATE
TEND
TENNIS-SHOE
TENSION
TERMINAL
TERRACE
TERRAIN
TEXTILE
THATCH
THEMSELF
THIRST
THIRTEENTH
THOROUGH
THOU
THRIFTY
THROTTLE
THROUGHOUT
THRUST
THYME
TICKLE
TINCAN
TINKLE
TOMTOM
TONIC
TOPAZ
TORPEDO
TORTURE
TOUCHDOWN
TOURIST
TOURNAMENT
TRACT
TRAMPOLINE
TRANSFORMER
TRANSISTOR
TRANSIT
TRANSMISSION
TRANSMITTER
TRANSPARENT
TRAPEZE
TRAPPER
TREACHEROUS
TREAD
TREASON
TREASURER
TREASURY
TREATMENT
TREATY
TREK
TREMENDOUS
TRESPASS
TRIANGULAR
TRIBE
TRIBUTARY
TRICEP
TRIGONOMETRY
TRINKET
TRIO
TRIPE
TRIPLET
TRIPOD
TRIUMPH
TROPICAL
TRUCE
TUBERCULOSIS
TUMMY
TUMOR
TUNDRA
TURBINE
TYPHOON
UNABLE
UNBREAKABLE
UNCLEAN
UNCOVER
UNDERGROUND
UNDERSHIRT
UNDERTAKER
UNDERWATER
UNEASY
UNFAIR
UNICYCLE
UNKIND
UNLOAD
UNLUCKY
UNSAFE
UNWORTHY
UPSET
UPSIDEDOWN
UPWARD
USUAL
UTILITY
VACANT
VALVE
VARIETY
VARIOUS
VAULT
VEHICLE
VELOCITY
VENTRICLE
VERTEBRA
VERTIGO
VET
VIBRATE
VICTORY
VILLAIN
VIRGINAL
VIRUS
VISE
VISITOR
VISUALIZE
VODKA
VOLLEYBALL
VOLUMN
WAGE
WAITER
WAND
WAREHOUSE
WARMTH
WASHRAG
WATERDOG
WATERWAY
WEALTHY
WEAN
WEAPON
WEIGHTLESSNESS
WELD
WEREWOLF
WHEW
WHINE
WHISKER
WHIZ
WICKED
WIGWAM
WINDOWPANE
WINDPIPE
WINDSHIELD
WINDWARD
WISDOM
WITNESS
WOODLAND
WOODWIND
WOOF
WORTHY
WRING
WRISTWATCH
YACHT
YAWN
YEARLY
YEW
YIELD
YOUNGSTER
ZOMBI

APPENDIX F

FREE-ASSOCIATION WORD LISTS:
1966-1926

FREE-ASSOCIATION WORD LISTS
1966 -- 1926

·grade levels·

	'66	'26
AARDVARK	6	0
ABANDON	0	6
ABBREVIATE	5	4
ABBREVIATION	4	4
ABDOMEN	2	0
ABDUCT	0	6
ABED	0	5
ABIDE	0	6
ABILITY	5	5
ABLE	3	2
ABNORMAL	6	0
ABOLISH	0	6
ABOLITIONIST	0	6
ABROAD	0	5
ABRUPT	6	0
ABSENCE	0	5
ABSENTEE	0	2
ABSOLUTE	0	5
ABSOLUTELY	0	5
ABSORB	0	6
ABSTINENCE	0	6
ABSTRACT	0	6
ABSURD	0	6
ABUNDANCE	0	6
ABUNDANT	0	6
ABUSE	0	6
ABUSIVE	0	6
ABYSS	0	4
ACADEMY	0	5
ACCENT	5	6
ACCEPT	6	3
ACCIDENT	4	2
ACCOMMODATE	0	6
ACCOMPANY	6	6
ACCOMPLISH	6	5
ACCORD	0	6
ACCORDANCE	0	6
ACCORDING	0	4
ACCORDION	5	0
ACCOUNT	6	3
ACCOUNTABLE	0	6
ACCURACY	0	6
ACCURATE	6	5
ACE	3	2
ACHIEVE	0	6
ACID	5	0
ACKNOWLEDGE	0	6
ACQUAINT	0	4
ACQUAINTANCE	0	6
ACQUIRE	0	5
ACRE	4	5
ACROBAT	5	4
ACTION	3	3
ACTIVE	6	5
ACTIVITY	4	4
ACTOR	4	3
ACTRESS	5	5
ACTUAL	5	0
ACUTE	5	0
AD	4	0
ADAPT	0	6
ADD	2	2
ADDEND	4	0
ADDITION	2	2
ADDITIONAL	0	5
ADENOID	0	5
ADJACENT	0	6
ADJECTIVE	4	5
ADJOIN	0	6
ADJOURN	0	6
ADJUNCT	0	6
ADJUST	5	6
ADJUSTMENT	5	0
ADMIRAL	0	6
ADMIRATION	0	4
ADMIRE	5	4
ADMISSION	0	6
ADMIT	0	3
ADMITTANCE	0	5
ADOLESCENT	6	0
ADOPT	0	6
ADORABLE	0	4
ADORE	5	5
ADULT	3	0
ADVANCE	6	5
ADVANTAGE	6	5
ADVANTAGEOUS	0	6
ADVENTURE	2	5
ADVERB	4	6
ADVERBIAL	0	6
ADVERTISE	6	6
ADVERTISEMENT	0	5
ADVICE	6	5
ADVISE	6	6
AERIAL	5	5
AEROPLANE	0	5
AFFAIR	6	5
AFFECT	5	6
AFFECTION	0	5
AFFECTIONATE	0	5
AFFILIATE	0	6
AFFORD	0	5
AFFRIGHT	0	6
AFT	6	0
AFTERWARD	5	3
AGATE	4	0
AGE	2	2
AGENCY	5	3
AGENT	3	4
AGO	0	2
AGONY	6	5
AGREE	5	4
AGREEABLE	0	5
AGREEMENT	0	5
AGRICULTURE	4	4
AHOY	0	6
AID	2	2
AIL	6	2
AILERON	6	0
AIM	3	2
AIRCRAFT	4	0
AIREDALE	0	6
AIRFOIL	6	0
AIRFORCE	4	0
AIRLINE	5	0
AIRMAIL	5	0
AIRPORT	3	0
AIRS	0	3
AIRSHAFT	0	6
AIRSHIP	0	2
AIRY	0	5
AISLE	5	5
ALARM	3	2
ALAS	0	5
ALBUM	4	4
ALCOHOL	5	3
ALDERMAN	0	6
ALE	4	2
ALERT	6	2
ALFALFA	5	0
ALGAE	5	0
ALGEBRA	6	6
ALIEN	0	6
ALLEGE	0	6
ALLEGIANCE	0	5
ALLIANCE	0	6
ALLOW	5	3
ALLOWANCE	6	6
ALLOY	6	0
ALLURE	6	0
ALLY	6	6
ALMANAC	6	0
ALMOND	5	5
ALOFT	6	0
ALOT	2	0
ALOUD	5	3
ALP	6	0
ALPACA	0	6
ALPHABET	2	2
ALPHABETIZE	4	0
ALRIGHT	4	0
ALTAR	0	5
ALTER	6	5
ALTERNATE	0	6
ALTHOUGH	5	3
ALTITUDE	4	6
ALTO	5	5
ALTOGETHER	5	5
ALUMINUM	4	6
ALUMNI	6	0
ALWAY	5	0
AMATEUR	0	6
AMAZE	6	0
AMAZED	0	5
AMBER	5	4
AMBITION	0	5
AMBITIOUS	0	5
AMBULANCE	6	4
AMEBA	5	0
AMEN	6	6
AMETHYST	0	6
AMMONIA	0	6
AMMUNITION	6	5
AMONG	5	2
AMOUNT	5	4
AMP	6	0
AMPHIBIAN	3	0
AMPLE	6	6
AMPLIFIER	5	0
AMUSE	6	4
AMUSEMENT	6	5
ANAGRAM	3	0
ANALYZE	0	6
ANATOMY	5	0
ANCESTOR	6	6
ANCESTRY	0	5
ANCHOR	4	4
ANCIENT	5	5
ANECDOTE	0	6
ANGELIC	6	0
ANGER	5	4
ANGLE	4	2
ANGLEFISH	6	0
ANGLER	6	0
ANIMATE	6	0
ANKLE	4	3
ANNEX	0	5
ANNEXATION	0	6
ANNIVERSARY	0	4
ANNOUNCE	0	4
ANNOUNCEMENT	5	4
ANNOY	0	3
ANNOYANCE	0	6
ANNUAL	4	5
ANONYMOUS	0	6
ANTEATER	5	6
ANTELOPE	3	6
ANTENNA	3	0
ANTEROOM	0	6
ANTHEM	0	6
ANTHER	5	0
ANTHROPOD	4	0
ANTIBIOTIC	6	0
ANTICIPATE	0	6
ANTICS	0	6
ANTIQUATED	0	6
ANTIQUE	6	6
ANTLER	4	5
ANTONYM	4	4
ANVIL	4	5
ANXIETY	0	6
ANXIOUS	5	6
ANYHOW	3	5
ANYPLACE	4	0
ANYTIME	3	0
ANYWHERE	4	3
APE	2	2
APHID	6	0
APOLOGIZE	0	5
APOSTLE	0	6
APOSTROPHE	0	6
APOTHECARY	0	6
APPARATUS	6	5
APPAREL	0	5
APPARENT	6	0
APPARENTLY	6	0
APPEAL	6	5
APPEAR	5	3
APPEARANCE	6	6
APPENDIX	6	6
APPETITE	6	4
APPLAUD	0	6
APPLAUSE	6	6
APPLESAUCE	5	3
APPLICANT	0	6
APPLICATION	0	6
APPLY	5	4
APPOINT	6	5
APPOINTMENT	6	6
APPRECIATE	5	5
APPRECIATION	0	6
APPRENTICE	6	0
APPROACH	0	4
APPROVE	6	6
APPROXIMATE	6	0
APRICOT	3	3
APT	6	2
AQUA	4	0
AQUARIUM	4	4
ARBOR	0	3
ARC	6	6
ARCH	5	6
ARCHBISHOP	0	6
ARCHEOLOGY	6	0
ARCHER	0	4
ARCHERY	6	0
ARCHITECT	0	6
ARCTIC	6	0
AREA	4	4
ARENA	5	0
ARGUE	5	5
ARGUMENT	0	5
ARID	6	0
ARISE	6	5
ARITHMETIC	2	2
ARK	3	2
ARMCHAIR	0	4
ARMISTICE	0	6
ARMOR	3	3
ARMY	2	2
ARNICA	0	6
AROUSE	0	5
ARRANGE	5	3
ARRANGEMENT	0	6
ARRAY	0	6
ARRIVAL	0	6
ARRIVE	6	3
ART	2	2
ARTERY	5	0
ARTICLE	5	5
ARTIFICIAL	5	5
ARTILLERY	0	6
ARTIST	4	3
ARTISTIC	5	5
ASBESTOS	6	0
ASH	3	2
ASHAMED	0	4
ASHES	0	2
ASHTRAY	5	0
ASIDE	3	3
ASPARAGUS	0	5
ASPHALT	5	5
ASPIRIN	6	0
ASS	4	2
ASSASSINATE	0	5
ASSEMBLE	0	5
ASSEMBLY	5	3
ASSESS	0	6
ASSIGN	0	6
ASSIGNMENT	4	0
ASSIST	0	5
ASSISTANT	0	5
ASSOCIATE	6	5
ASSOCIATION	6	4
ASSORTED	0	6
ASSURE	0	5
ASTER	6	2
ASTEROID	4	0
ASTONISH	5	5
ASTRONAUT	4	0
ASTRONOMER	6	0
ASTRONOMY	5	5
ATHLETE	6	5
ATHLETIC	6	4
ATHLETICS	0	5
ATMOSPHERE	3	6
ATOM	3	0
ATOMIC	5	0
ATTACH	6	6
ATTACK	4	5
ATTAIN	6	5
ATTAINMENT	0	6
ATTEMPT	0	5
ATTEND	4	4
ATTENDANCE	5	2
ATTENDANT	6	3
ATTENTION	5	4
ATTITUDE	6	0
ATTORNEY	6	5
ATTRACT	6	6
ATTRACTION	0	6
ATTRACTIVE	6	6
AUBURN	6	0
AUCTION	0	6
AUDIENCE	0	6
AUDIO	6	0
AUDITORIUM	5	5
AURICLE	6	0
AUTHOR	3	5
AUTHORITY	0	6
AUTOBIOGRAPHY	5	0
AUTOGRAPH	4	6
AUTOHARP	6	0
AUTOMATIC	5	5
AVERAGE	5	3
AVIATION	6	6
AVIATOR	0	3
AVOCADO	6	0
AVOID	0	4
AVOIRDUPOIS	0	6
AWAIT	0	5
AWAKE	3	2
AWAKEN	0	5
AWARD	4	0
AWARE	6	0
AWE	6	5
AWKWARD	0	6
AWL	0	6
AWNING	0	6
AWOKE	0	3
AXE	4	0
AXIS	0	4
AXLE	3	5
AYE	5	2
AZALEA	6	0
BABE	6	2
BABOON	4	4
BABY-BUGGY	0	6
BABYHOOD	0	6
BABYSITTER	5	0
BACHELOR	0	6
BACK-YARD	0	4
BACKBONE	0	4
BACKGROUND	5	0
BACKSTOP	4	0
BACKWARD	3	0
BACKYARD	4	0
BACTERIA	5	0
BADE	5	3
BADGER	0	3
BADLY	4	0
BAIL	3	2
BAIT	3	2
BAKING-POWDER	0	4
BALANCE	5	6
BALCONY	5	4
BALD	3	2
BALE	4	2
BALK	6	5
BALL-GAME	0	4
BALLAD	6	0
BALLET	3	0
BALLOT	4	0
BALLROOM	6	0
BALSA	6	0
BAMBOO	5	4
BAN	2	3
BANDAGE	4	4
BANDAID	4	0
BANDIT	5	4
BANISH	0	6
BANISTER	0	5
BANJO	4	4
BANKBOOK	0	5
BANKER	0	2
BANKING	0	2
BANKRUPT	0	6
BANNER	4	2
BANQUET	6	5
BAPTIZE	0	6
BAR	2	2
BARB	6	0
BARBELL	6	0
BARBER-SHOP	0	6
BARD	3	2
BARELY	5	0
BARGAIN	6	4
BARGE	4	6
BARITONE	6	0
BARK	2	2
BARKER	6	0
BARLEY	4	5
BARNYARD	3	3
BAROMETER	5	0
BARON	6	0
BARRACK	6	0
BARREN	6	5
BARRETTE	6	3
BARROW	5	0
BASE	2	2
BASEMAN	6	5
BASH	4	0
BASHFUL	0	5
BASIC	2	0
BASIN	5	4
BASIS	0	6
BASK	0	3
BASKETBALL	3	3
BASS	3	2
BASSOON	0	5
BAST	3	0
BASTE	0	3
BATCH	5	3
BATHE	4	0
BATHHOUSE	0	6
BATHING-SUIT	0	5
BATHROBE	0	5
BATHROOM	0	4
BATON	6	0
BATTER	2	3
BATTERY	4	4
BATTLE	3	2
BATTLESHIP	4	3
BAUXITE	5	0
BAY	2	2
BAYONET	0	3
BAZAAR	0	5
BAZOOKA	4	0
BEACHBOY	5	0
BEACON	6	2
BEAGLE	6	0
BEAK	2	3
BEAKER	6	0

BEAM	3	3
BEANSTALK	2	0
BEARD	3	2
BEAST	3	2
BEATER	5	5
BEATITUDE	0	6
BEAUTY	3	2
BEAVER	2	2
BECAME	3	2
BECKON	0	5
BECOME	2	2
BEDROCK	4	0
BEDSPREAD	5	5
BEDTIME	3	2
BEECH	6	3
BEECHNUT	0	5
BEEFSTEAK	0	4
BEEHIVE	5	6
BEER	2	2
BEETLE	3	3
BEFALL	0	6
BEFOREHAND	0	4
BEFRIEND	0	6
BEGGAR	5	3
BEGINNER	0	4
BEGINNING	0	5
BEGONIA	0	6
BEGUN	3	2
BEHAVE	4	3
BEHAVIOR	0	5
BEHOLD	5	4
BEING	0	2
BELIEF	0	5
BELLBOY	0	6
BELLOW	4	3
BELLOWS	0	3
BELLY	3	0
BELOVED	0	4
BELOW	3	2
BENEATH	5	5
BENEDICTION	0	5
BENEFIT	0	6
BENUMB	0	6
BENZINE	0	6
BERATE	0	5
BERET	5	0
BETRAY	0	5
BEVERAGE	0	6
BEWARE	2	5
BEWITCH	5	0
BEY	6	0
BEYOND	2	3
BIBLIOGRAPHY	6	0
BICEP	6	0
BICUSPID	6	0
BID	2	2
BIDDEN	0	3
BIKE	2	0
BIKINI	6	0
BILE	6	6
BILLBOARD	0	6
BILLFOLD	5	0
BILLHEAD	0	6
BILLION	4	5
BILLOW	0	6
BIN	4	2
BIND	4	2
BINDER	5	0
BING	4	0
BINGO	2	0
BIOGRAPHY	5	6
BIOLOGY	4	0
BIRTH	3	3
BISHOP	0	5
BISON	6	6
BITTEN	5	3
BLACKCAP	6	0
BLACKJACK	0	6
BLACKTOP	4	0
BLADDER	5	0
BLADE	3	2
BLAME	3	2
BLAND	6	0
BLANK	2	2
BLARE	0	6
BLAST	3	2
BLASTINGCAP	4	0
BLASTOFF	4	0
BLAZE	4	3
BLEACH	4	6
BLEACHER	6	0
BLEAK	6	5
BLEAT	0	2
BLEED	4	2
BLEND	2	3
BLINK	2	2
BLISS	6	3
BLISTER	4	0
BLIZZARD	6	4
BLOB	6	0
BLOCKADE	5	6
BLOND	3	2
BLONDE	4	0
BLOOD	0	3
BLOODY	4	0
BLOT	5	2
BLOTTER	0	3
BLOWER	4	6
BLOWN	2	3
BLUBBER	5	6
BLUEBERRY	4	2
BLUEGREEN	3	0
BLUFF	4	4
BLUING	0	4
BLUNDER	0	5
BLUR	3	0
BLUSH	6	3
BOA	5	0
BOAR	4	5
BOARDER	6	6
BOAST	3	4
BOATHOUSE	0	4
BOATING	0	5
BOATMAN	0	5
BOB	0	2
BOBBYPIN	5	0
BOBCAT	2	3
BOBOLINK	0	4
BODILY	0	5
BOG	3	2
BOIL	2	2
BOILER	0	6
BOLD	2	2
BOLE	4	0
BOLL	2	0
BOLOGNA	5	3
BOLT	3	5
BOMB	3	5
BOMBER	4	0
BONANZA	6	0
BONBON	0	6
BOND	3	3
BONDAGE	0	6
BONEY	6	0
BONFIRE	6	5
BONNY	0	3
BONY	4	2
BOOKCASE	4	2
BOOKKEEPING	0	6
BOOKLET	3	3
BOOKSHELF	5	0
BOOKWORM	4	0
BOOMERANG	4	0
BOON	4	0
BOOR	4	0
BOOST	6	0
BOOSTER	5	0
BOOTH	2	3
BOOTLEGGER	0	5
BOOZE	4	0
BORAX	6	0
BORDER	5	4
BORE	2	3
BOROUGH	0	4
BORROW	3	3
BOSOM	0	4
BOTANY	6	0
BOUGH	5	3
BOULDER	6	0
BOULEVARD	6	3
BOUND	3	2
BOUNDARY	6	5
BOUNTY	6	0
BOURBON	6	0
BOUT	3	5
BOW-WOW	3	2
BOWEL	5	4
BOWER	0	3
BOWTIE	6	0
BOWWOW	2	0
BOXCAR	3	0
BOXER	4	0
BOY-SCOUT	0	3
BOYHOOD	0	3
BOYISH	0	5
BOYSCOUT	4	0
BRA	4	0
BRACE	3	2
BRACKET	6	6
BRAD	4	0
BRAG	2	6
BRAID	3	3
BRAIN	2	2
BRAKEMAN	0	5
BRAN	3	2
BRANDY	6	6
BRASS	3	2
BRAT	2	2
BRAVELY	4	0
BRAVERY	5	0
BRAY	0	3
BREAD[illegible]	0	4
BREAKER	6	5
BREASTPIN	0	4
BREASTPLATE	0	6
BREATH	4	2
BREATHE	4	6
BREATHLESS	0	6
BRED	6	0
BREECHES	0	6
BREED	6	5
BREEZE	3	3
BREW	6	5
BRIC-A-BRAC	0	6
BRICKBAT	0	5
BRIDAL	0	6
BRIDE	2	2
BRIDEGROOM	0	5
BRIDLE	3	5
BRIEF	5	4
BRIEFCASE	6	4
BRIG	5	0
BRIGADE	0	6
BRILLIANT	6	4
BRIM	5	6
BRINK	6	2
BRITTLE	6	5
BROAD	3	3
BROAD-JUMP	0	5
BROADCAST	0	2
BROADCLOTH	0	6
BROIL	4	2
BRONCO	6	5
BRONZE	6	5
BROOD	6	3
BROOK	2	2
BROTH	5	3
BROTHER-IN-LAW	0	6
BROTHERHOOD	4	6
BROW	2	0
BRUISE	5	4
BRUNETTE	5	3
BRUTE	0	5
BUCCANEER	6	0
BUCK	2	3
BUCKER	6	0
BUCKLE	3	4
BUCKSHOT	0	6
BUCKWHEAT	0	6
BUDDY	2	2
BUDGE	6	0
BUFF	5	0
BUILDER	3	2
BULGE	6	0
BULL	2	2
BULLDOZER	5	0
BULLETIN	4	3
BULLETINBOARD	4	0
BULLFROG	0	6
BULLY	4	4
BUM	3	2
BUMBLE	5	0
BUMPER	5	0
BUMPY	5	0
BUNDLE	3	2
BUNGALOW	0	5
BUNK	3	2
BUNT	5	0
BUOY	0	6
BURDEN	6	5
BURGLAR	6	4
BURGLARY	0	5
BURIAL	0	5
BURLAP	0	6
BURNER	4	0
BURP	4	0
BURRO	4	0
BURROW	6	6
BURST	4	3
BURY	5	0
BUSHEL	4	3
BUSINESS	2	2
BUSS	4	0
BUST	0	2
BUTLER	4	0
BUTT	5	0
BUTTERFLIES	4	0
BUTTERNUT	0	6
BUTTERSCOTCH	0	6
BUYER	0	5
BUZZ	2	2
BUZZARD	4	0
BUZZER	5	0
CABLE	4	2
CACTUS	3	0
CAD	5	2
CADDY	5	3
CAFE	3	3
CAFETERIA	3	5
CALCIUM	6	0
CALCULATE	0	6
CALCULATION	0	6
CALIBER	6	0
CALICO	0	5
	0	2
CALK		
CALLER	6	3
CALM	4	5
CALYX	5	0
CAM	3	0
CAMBRIC	0	5
CAMERA	3	4
CAMPAIGN	6	5
CAMPER	3	0
CAMPFIRE	4	0
CAMPUS	5	0
CAMSHAFT	6	0
CANAL	3	5
CANCEL	6	5
CANCELLATION	0	5
CANCER	4	4
CANDID	5	0
CANDIDATE	0	6
CANISTER	5	0
CANNERY	5	6
CANNIBAL	6	5
CANNON-BALL	0	5
CANNOT	3	2
CANON	3	0
CANOPY	6	0
CANTALOUPE	0	5
CANTEEN	5	6
CANTER	4	0
CANVASS	0	6
CANYON	3	3
CAPABLE	0	5
CAPACITY	0	4
CAPER	6	6
CAPITAL	2	2
CAPITALIZATION	0	6
CAPITALIZE	0	6
CAPITOL	3	0
CAPSIZE	0	6
CAPSULE	4	0
CAPTIVE	6	6
CAPTOR	0	6
CAPTURE	4	3
CARAMEL	0	5
CARAVAN	3	0
CARBON	4	5
CARBONDIOXIDE	6	0
CARBURETOR	5	5
CARD-INDEX	0	6
CAREER	0	6
CAREFULLY	4	0
CARELESSNESS	0	6
CARET	0	6
CARFARE	0	3
CARGO	5	3
CARIBOU	6	0
CARICATURE	6	0
CARLOAD	0	4
CARNIVAL	3	5
CAROL	4	5
CARP	5	0
CARPORT	5	0
CARRIER	6	5
CARTON	3	0
CARTOON	3	6
CARTRIDGE	6	0
CARVE	4	6
CASCADE	0	5
CASH	3	2
CASH-BOY	0	5
CASH-GIRL	0	5
CASHEW	5	0
CASHIER	0	5
CASHMERE	0	6
CASKET	4	3
CAST	2	2
CASTOR-OIL	0	4
CATALOG	3	0
CATALOGUE	6	3
CATECHISM	0	6
CATFISH	3	4
CATHEDRAL	0	6
CATHOLIC	6	0
CATNIP	0	5
CATSUP	4	5
CATTAIL	4	3
CATTLE	3	3
CAULIFLOWER	0	5
CAUTION	4	6
CAUTIOUS	0	6
CAVEMAN	5	0
CAVERN	6	0
CAVITY	6	0
CAW	4	2
CEASE	6	6
CELEBRATE	5	3
CELEBRATION	0	5
CELL	2	2
CELLO	4	0
CELLULOID	0	6
CEMETERY	3	4
CENSUS	0	6
CENTENNIAL	0	6
CENTIMETER	5	0
CENTIPEDE	0	6
CENTRAL	4	3
CENTRIFUGAL	6	0
CENTURY	4	4
CEREAL	3	2
CEREMONY	0	6
CERTAIN	4	5
CERTIFICATE	0	5
CERTIFY	0	6
CHAIRMAN	2	5
CHALKBOARD	3	0
CHALLENGE	4	5
CHAMBER	4	4
CHAMP	5	0
CHAMPION	5	5
CHANDELIER	0	6
CHANGEABLE	0	4
CHANNEL	4	3
CHANT	6	0
CHAP	5	2
CHAPEL	4	6
CHAPTER	6	5
CHAR	5	0
CHARACTER	2	2
CHARCOAL	4	5
CHARGE	3	3
CHARGER	6	0
CHARIOT	6	3
CHARITABLE	0	5
CHARITY	5	4
CHARM	4	3
CHART	2	2
CHARTER	0	5
CHAT	3	2
CHATTER	3	4
CHAUFFEUR	0	6
CHEAP	4	2
CHEAT	3	2
CHECK	2	2
CHECKER	2	4
CHECKERBOARD	6	0
CHEEP	4	0
CHEER	3	2
CHEERFUL	5	4
CHEERY	0	2
CHEETAH	6	0
CHEF	5	0
CHEMICAL	5	6
CHEMIST	6	5
CHEMISTRY	3	0
CHERRYTREE	4	0
CHESS	4	5
CHEWING-GUM	0	5
CHICKADEE	0	2
CHICKENPOX	5	0
CHICLE	6	0
CHILDHOOD	0	5
CHILI	6	0
CHILL	3	2
CHILLY	2	4
CHIME	3	2
CHIMP	4	0
CHIMPANZEE	3	0
CHIN	2	2
CHINA	0	6
CHINA-CLOSET	0	5
CHINAWARE	0	6
CHINK	0	3
CHIP	2	2
CHIPMUNK	2	5
CHIRP	4	2
CHISEL	5	4
CHIVE	6	0
CHLOROPHYLL	5	0
CHOCK	3	0
CHOICE	3	3
CHOIR	2	5
CHOKE	2	2
CHOP-SUEY	0	5
CHORD	4	3
CHORE	4	0
CHORES	0	5
CHORUS	5	4
CHOSE	5	3
CHOSEN	0	4
CHOW	2	2
CHRISTEN	0	6
CHROMATIC	0	4
CHROME	6	0
CHRONIC	0	6
CHRYSANTHEMUM	0	6
CHUBBY	4	0
CHUCK	0	3
CHUCKLE	6	0
CHUG	6	0
CHUM	5	3
CHUTE	6	0
CIDER	4	3
CIGAR	3	2
CIGARETTE	4	4
CINCH	4	0
CINDER	5	3
CINNAMON	5	6
CIPHER	0	6
CIRCUIT	4	6
CIRCULAR	0	5
CIRCUMFERENCE	0	4
CIRCUMSTANCES	0	6
CIRRUS	6	0
CISTERN	0	5
CITIZEN	2	4
CITIZENSHIP	3	0
CITRUS	6	0
CIVICS	0	5
CIVIL	5	5
CIVILIAN	0	6

CIVILIZATION	6	5
CLACK	4	2
CLAD	5	2
CLAIM	5	0
CLAM	2	2
CLAMP	4	0
CLAN	5	2
CLANG	4	3
CLANK	2	0
CLAPBOARD	0	6
CLARINET	4	6
CLASH	5	6
CLASP	6	4
CLASSIC	0	6
CLASSMATE	4	6
CLASSROOM	3	2
CLATTER	5	0
CLAW	2	2
CLEANER	2	3
CLEANLINESS	0	4
CLEANSE	0	5
CLEANSER	6	5
CLEAVE	0	6
CLEAVER	5	5
CLEF	6	6
CLERK	5	3
CLEVER	4	2
CLICK	3	2
CLIFF	3	2
CLIMATE	5	4
CLIMAX	0	5
CLIMBER	0	3
CLING	5	2
CLINIC	5	6
CLINK	6	0
CLIP	2	5
CLIPBOARD	5	0
CLIPPER	4	0
CLIPPERS	0	6
CLOAKROOM	0	5
CLOD	2	2
CLOG	5	3
CLOP	5	0
CLOT	4	0
CLOTHE	4	0
CLOTHESPIN	0	5
CLOTHIER	0	5
CLOTHING	5	3
CLOUDLESS	0	6
CLOUDY	3	4
CLOVE	5	3
CLUBHOUSE	0	6
CLUCK	4	3
CLUE	2	0
CLUMP	5	3
CLUMSY	5	4
CLUSTER	6	0
CLUTCH	5	5
COACH	3	3
COARSE	4	4
COAST	2	2
COAST-LINE	0	4
COAT-HANGER	0	4
COAX	0	5
COB	3	2
COBBLER	5	0
COBRA	5	0
COBWEB	0	4
COCK	3	2
COCKPIT	6	0
COCKTAIL	6	0
COCOON	5	4
COD	3	2
CODDLE	0	6
CODE	2	2
CODFISH	5	5
COFFEEPOT	0	4
COFFIN	4	5
COG	6	0
COIL	5	2
COIN	3	2
COKE	2	2
COLA	4	0
COLE	4	0
COLLAGE	6	0
COLLAPSE	6	5
COLLECT	3	2
COLLECTION	3	6
COLLECTOR	4	6
COLLEGIATE	6	0
COLLIE	5	3
COLLISION	0	6
COLON	5	6
COLONEL	5	5
COLONIAL	0	5
COLONIST	0	5
COLONY	4	4
COLORFUL	5	0
COLT	2	2
COLUMN	3	4
COMBAT	3	0
COMBINATION	6	4
COMBINE	5	6
COMBUSTION	6	0
COMEDIAN	6	0
COMEDY	6	5
COMET	3	5
COMFORT	6	4
COMFORTABLE	5	4
COMIC	2	0
COMICAL	6	6
COMMA	3	2
COMMAND	5	3
COMMANDER	6	4
COMMEMORATE	0	6
COMMENCE	0	5
COMMENT	6	0
COMMERCE	4	4
COMMERCIAL	6	3
COMMISSION	6	0
COMMISSIONER	0	6
COMMIT	0	6
COMMITTEE	6	4
COMMON	3	4
COMMUNICATE	3	6
COMMUNICATION	3	6
COMMUNION	0	5
COMMUNISM	6	0
COMMUNIST	6	0
COMMUNITY	3	5
COMPACT	0	5
COMPANION	0	4
COMPARE	6	4
COMPARTMENT	6	0
COMPASS	5	4
COMPEL	0	5
COMPENSATION	0	6
COMPETE	5	0
COMPETITION	6	0
COMPLAIN	6	5
COMPLAINT	6	4
COMPLETE	2	3
COMPLEX	0	6
COMPLEXION	0	6
COMPLICATE	4	0
COMPLIMENT	0	4
COMPOSE	5	4
COMPOSER	6	4
COMPOSITE	0	6
COMPOSITION	6	3
COMPOUND	3	2
COMPRESS	0	6
COMPRISE	0	6
COMPROMISE	0	6
COMPUTE	4	0
COMPUTER	6	0
COMRADE	0	5
CON	4	0
CONCEAL	0	6
CONCEIT	0	6
CONCENTRATE	3	6
CONCENTRIC	6	0
CONCEPT	6	0
CONCERN	5	5
CONCERT	5	5
CONCRETE	4	3
CONDEMN	0	6
CONDENSATION	3	0
CONDENSE	4	6
CONDITION	6	5
CONDUCT	5	2
CONFECTION	0	4
CONFECTIONERY	0	6
CONFEDERATE	0	6
CONFEDERATION	0	6
CONFERENCE	0	5
CONFESS	0	5
CONFESSION	0	6
CONFIDE	6	0
CONFIDENCE	6	4
CONFINE	0	6
CONFIRM	0	5
CONFIRMATION	0	5
CONFUSE	6	6
CONFUSION	0	6
CONGENIAL	0	6
CONGRATULATE	0	5
CONGRATULATION	6	5
CONGREGATION	0	5
CONGRESS	4	4
CONGRUENT	6	0
CONIFER	4	0
CONJUNCTION	6	4
CONNECT	6	4
CONNECTION	0	4
CONQUER	6	5
CONSCIENCE	6	5
CONSENT	6	5
CONSEQUENCE	0	6
CONSERVATION	3	0
CONSERVE	6	0
CONSIDER	6	4
CONSIDERABLE	0	5
CONSIDERATE	5	5
CONSIDERATION	0	4
CONSIST	0	6
CONSLUSION	0	6
CONSOLATION	0	5
CONSOLIDATE	0	5
CONSONANT	4	5
CONSTABLE	0	5
CONSTANT	0	5
CONSTELLATION	4	0
CONSTITUTION	5	4
CONSTRUCT	6	6
CONSTRUCTION	6	6
CONSULT	6	5
CONSUMER	5	0
CONTACT	5	0
CONTAGIOUS	0	5
CONTAIN	6	4
CONTAINER	4	0
CONTENT	4	4
CONTEST	6	3
CONTEXT	6	0
CONTINENT	3	4
CONTINENTAL	6	5
CONTINUE	4	4
CONTINUOUS	0	6
CONTRACT	4	2
CONTRACTION	4	5
CONTRACTOR	6	5
CONTRADICT	0	6
CONTRARY	5	3
CONTRAST	6	6
CONTRIBUTE	5	6
CONTROL	5	3
CONVENIENCE	0	6
CONVENIENT	0	3
CONVENT	0	3
CONVENTION	0	6
CONVERSATION	5	4
CONVERSE	6	3
CONVERT	6	6
CONVICT	6	4
CONVINCE	6	6
CONVULSION	0	6
COOKY	2	2
COON	3	2
COOPER	6	0
COOPERATE	6	0
COP	2	0
COPE	3	0
COPPER	3	2
COPRA	6	0
COPYRIGHT	6	5
CORAL	4	5
CORD	2	2
CORDIAL	0	5
CORDUROY	0	6
CORE	2	2
CORNBREAD	5	5
CORNEA	6	0
CORNED-BEEF	0	5
CORNET	5	6
CORNFLAKES	0	4
CORNMEAL	0	5
CORONET	5	4
CORPORAL	6	6
CORPORATION	6	4
CORPS	6	0
CORPSE	0	5
CORRAL	4	6
CORRECT	3	2
CORRECTION	5	0
CORRECTLY	5	0
CORRESPOND	0	6
CORRESPONDENCE	6	6
CORRESPONDENT	0	6
CORRIDOR	6	0
CORSET	0	5
COSMIC	6	0
COSTUME	5	4
COT	2	2
COTTON-GIN	0	6
COUGAR	4	0
COUGH-DROP	0	6
COUNCIL	5	4
COUNSEL	0	6
COUNSELOR	6	0
COUNTERPANE	0	4
COUNTESS	0	6
COUNTLESS	0	6
COUNTY	3	5
COUPE	0	5
COUPON	0	5
COURAGE	4	4
COURAGEOUS	0	6
COURT	3	3
COURTEOUS	6	6
COURTESY	3	4
COURTSHIP	6	0
COVE	4	5
COWARD	4	4
COWGIRL	3	0
COWHIDE	6	0
COWPUNCHER	0	6
COWSLIP	0	2
COY	6	5
COYOTE	4	5
COZY	5	3
CRACKERJACK	0	5
CRACKLE	6	0
CRAFT	3	5
CRAG	0	3
CRAM	2	6
CRAMP	3	3
CRANE	3	2
CRANKSHAFT	5	0
CRAPE	5	5
CRASH	2	2
CRATE	3	3
CRATER	3	0
CRAVE	0	3
CRAWDAD	4	0
CRAWFISH	6	0
CRAYOLA	2	0
CRAZE	0	3
CREAK	5	4
CREAMERY	0	6
CREATE	5	5
CREATION	6	6
CREATIVE	4	0
CREATURE	4	4
CREDIT	3	4
CREED	4	2
CREEP	3	2
CREEPY	5	0
CREPE	5	3
CREPT	3	3
CRESCENT	0	6
CREST	4	5
CRETONNE	0	6
CREVICE	6	6
CREW	2	5
CRIB	3	2
CRICKET	3	2
CRIME	3	4
CRIMINAL	5	5
CRIMSON	0	4
CRINKLE	6	0
CRIPPLE	6	2
CRISP	4	5
CROCK	4	6
CROCODILE	2	6
CROCUS	0	2
CROOK	2	2
CROON	0	6
CROP	3	3
CROQUET	4	6
CROSSING	0	3
CROSSWALK	5	0
CROUCH	5	0
CROUP	0	6
CRUCIFY	0	5
CRUDE	5	0
CRUEL	3	5
CRUISE	5	6
CRUISER	6	0
CRULLER	0	6
CRUMPLE	0	6
CRUNCH	3	3
CRUSADE	3	5
CRUSADER	6	6
CRUSH	3	3
CRUST	4	3
CRUTCH	6	3
CRYSTAL	3	3
CUB	2	2
CUBBYHOLE	5	0
CUBIC	6	5
CUBSCOUT	4	0
CUCKOO	4	0
CUCUMBER	4	3
CUD	3	2
CUDDLE	6	0
CUE	6	0
CUFF	5	3
CULTIVATE	0	5
CULTIVATION	0	5
CULTURE	5	5
CUMULUS	6	0
CUNNING	6	2
CUP-CAKES	0	3
CUPCAKE	4	0
CUPFUL	0	4
CUPID	5	0
CUR	6	5
CURB	5	2
CURD	5	3
CURE	3	3
CURIO	0	6
CURIOSITY	0	6
CURIOUS	6	4
CURLER	4	0
CURRANT	0	4
CURRENCY	0	6
CURRENT	4	4
CURSE	5	6
CURSIVE	3	0
CURVE	4	4
CUSHION	6	5
CUSTARD	0	5
CUSTODIAN	4	0
CUSTOM	4	4
CUSTOMER	6	5
CUTICLE	0	6
CUTLERY	0	6
CUTOFF	5	0
CUTTER	4	0
CYCLE	3	6
CYCLONE	4	5
CYLINDER	5	0
CYPRESS	0	6
CZAR	0	6
DAB	3	0
DAFFODIL	4	3
DAGGER	6	5
DAILY	3	2
DAINTY	5	3
DAIRY	3	2
DALE	4	5
DAMAGE	5	4
DAME	3	2
DAMN	0	3
DAMP	3	2
DAMPNESS	0	4
DANCER	0	5
DANGEROUS	5	5
DAPPLE	0	2
DARE	3	2
DARKNESS	0	4
DARLING	0	3
DARNING	0	5
DART	2	2
DASH	3	2
DATA	5	0
DAUGHTER	3	2
DAVENPORT	5	4
DAWN	2	2
DAYBREAK	0	4
DAYLIGHT	4	3
DAYTIME	4	5
DAZE	5	0
DEADLY	5	0
DEAF	4	3
DEAL	3	3
DEALER	4	5
DEAN	3	5
DEATH	4	3
DEBATE	0	4
DEBT	5	0
DECADE	4	6
DECAY	6	2
DECEASE	6	6
DECEIT	0	4
DECEITFUL	0	6
DECEIVE	0	5
DECENT	6	5
DECIDE	4	3
DECIDUOUS	4	0
DECIMAL	5	5
DECISION	6	6
DECISIVE	0	6
DECK	2	2
DECLARATION	6	4
DECLARATIVE	6	4
DECLARE	5	4
DECREASE	6	0
DEED	2	2
DEERSKIN	0	6
DEFEAT	0	5
DEFECT	0	5
DEFEND	0	5
DEFENSE	5	5
DEFINE	4	5
DEFINITE	0	6
DEFINITION	4	6
DEFORMED	0	6
DEGREE	4	2
DELAY	0	2
DELICATE	0	5
DELICATESSEN	0	4
DELICIOUS	5	3
DELIGHT	5	2
DELIGHTFUL	0	4
DELIVER	5	4
DELL	2	2
DELTA	5	6
DELUGE	0	5
DEMAND	5	3
DEMOCRACY	6	4
DEMOCRATIC	6	0
DEMOLISH	6	0
DEMON	3	0
DEMONSTRATE	0	6
DEMONSTRATION	0	3
DEN	2	2
DENOMINATION	0	5
DENOMINATOR	5	4
DENSE	5	0
DENT	2	2
DENTAL	0	2
DEPART	6	5
DEPEND	5	4
DEPENDABLE	6	0
DEPENDENCE	0	5
DEPORT	0	5
DEPORTMENT	0	5
DEPOSIT	5	4
DEPOSITOR	0	3
DEPRESS	6	0
DEPRIVE	0	5
DEPTH	5	4
DEPUTY	6	0
DERBY	5	6
DERIVE	0	5
DERRICK	0	4
DESCEND	0	5
DESCENT	6	0

DESCRIBE	5	5
DESCRIPTION	6	5
DESERT	2	5
DESERVE	0	3
DESIRE	5	4
DESPISE	6	0
DESSERT	3	6
DESTINATION	0	6
DESTROY	5	4
DESTROYER	5	6
DESTRUCTION	5	0
DESTRUCTIVE	0	6
DETAIL	5	0
DETECTIVE	6	5
DETENTION	6	6
DETERGENT	4	0
DETERMINE	0	4
DEVASTATE	0	6
DEVELOP	6	5
DEVELOPMENT	6	0
DEVICE	6	5
DEVIL	3	3
DEVOTE	0	6
DEVOTION	0	5
DEVOUR	0	3
DEW	2	2
DEWDROP	0	5
DIAGONAL	0	6
DIAGRAM	5	4
DIAL	3	5
DIAMETER	5	0
DIAPER	5	0
DIARY	4	6
DICE	3	2
DICTATE	6	5
DICTATION	4	2
DICTATOR	6	6
DICTION	0	6
DICTIONARY	3	3
DIESEL	5	0
DIET	4	6
DIFFER	5	0
DIFFERENCE	3	2
DIFFICULT	4	5
DIFFICULTY	0	5
DIGEST	4	4
DIGESTION	0	5
DIGESTIVE	6	0
DIGIT	6	0
DIGNIFIED	0	6
DIKE	3	2
DILIGENT	0	4
DILL	3	2
DIM	2	2
DIMENSION	6	6
DIMINISH	0	6
DIMPLE	6	3
DIN	5	2
DINE	3	2
DINER	3	0
DINGY	6	0
DINOSAUR	3	0
DIOXIDE	5	0
DIP	2	2
DIPHTHERIA	0	6
DIPLOMA	0	6
DIPPER	4	2
DIRECT	4	3
DIRECTION	3	4
DIRECTOR	0	5
DIRIGIBLE	0	4
DISABLE	0	6
DISAGREE	6	6
DISAGREEABLE	0	4
DISAPPEAR	5	2
DISAPPOINT	6	4
DISAPPOINTMENT	0	6
DISARM	0	4
DISASTER	0	4
DISBELIEVE	0	4
DISC	5	0
DISCHARGE	0	6
DISCONTENT	3	0
DISCOUNT	6	6
DISCOURAGE	0	5
DISCOURAGEMENT	0	5
DISCOVER	3	3
DISCOVERER	0	5
DISCOVERY	4	4
DISCUSS	4	6
DISCUSSION	6	5
DISEASE	5	4
DISECT	6	0
DISGRACE	0	2
DISGUISE	0	5
DISGUST	6	6
DISH-TOWEL	0	6
DISHONEST	0	5
DISHONOR	0	5
DISHWASHER	5	0
DISK	3	5
DISLIKE	3	5
DISMAL	0	4
DISMAY	0	6
DISMISS	5	4
DISMISSAL	5	5
DISMOUNT	6	0
DISOBEDIENCE	0	6
DISOBEY	4	2
DISORDER	0	4
DISORDERLY	0	5
DISPATCH	0	6
DISPENSARY	0	6
DISPERSE	0	6
DISPLAY	5	4
DISPLEASE	0	6
DISPOSAL	5	0
DISPOSITION	0	6
DISPUTE	0	5
DISQUALIFY	0	6
DISSOLVE	4	0
DISTANCE	3	4
DISTANT	0	4
DISTINCT	0	6
DISTINCTIVE	0	5
DISTINGUISH	0	6
DISTRACT	0	5
DISTRESS	5	4
DISTRIBUTE	5	4
DISTRIBUTION	0	6
DISTRIBUTOR	5	0
DISTRICT	4	3
DISTURB	4	5
DITTO	2	0
DIVE	2	2
DIVER	4	0
DIVIDE	3	2
DIVIDEND	0	3
DIVIDER	6	0
DIVINE	0	5
DIVISION	3	2
DIVISOR	4	4
DIVORCE	6	6
DIZZY	5	3
DD	0	2
DOCTRINE	0	6
DOCUMENT	6	5
DODGE	3	3
DOE	3	4
DOGHOUSE	3	0
DOGWOOD	4	4
DOLLHOUSE	2	0
DOLLIE	0	3
DOLPHIN	4	0
DOMAIN	6	0
DOME	2	2
DOMESTIC	6	5
DOMINION	0	5
DOMINO	0	6
DONATION	0	6
DONG	4	0
DOODLE	5	0
DOOM	3	5
DOORBELL	5	6
DOORKNOB	4	3
DOORMAN	0	6
DOORSTEP	0	2
DOORWAY	5	4
DOPE	3	3
DORMITORY	6	4
DOSE	2	2
DOUBT	3	0
DOUBTFUL	0	4
DOUBTLESS	0	5
DOWNSTAIRS	5	0
DOZE	5	0
DRAFT	5	6
DRAG	2	2
DRAGON	2	3
DRAGONFLY	5	0
DRAGSTER	3	0
DRAGSTRIP	6	0
DRAIN	4	5
DRAINAGE	0	5
DRAINBOARD	6	0
DRAKE	4	3
DRAM	4	5
DRAMA	5	6
DRAMATIC	6	0
DRAMATIZE	0	4
DRAPE	3	3
DRAPERY	5	4
DRAUGHT	0	6
DRAWN	6	3
DRAY	5	3
DREAD	6	3
DREADFUL	0	4
DREAMLAND	0	3
DREARY	6	5
DREDGE	6	5
DRENCH	0	4
DRESSING	0	3
DRI	6	0
DRIFT	5	3
DRIP	2	2
DRIVEN	0	5
DRIVEWAY	5	6
DROOL	6	0
DROOP	5	3
DROUGHT	6	0
DROVE	3	5
DRUG	4	2
DRUGGIST	0	5
DRUGSTORE	0	3
DRUMMER	0	4
DRUNK	3	3
DRY-GOODS	0	5
DRYCELL	5	0
DRYER	4	0
DUCHESS	5	6
DUD	4	0
DUDE	5	0
DUE	3	2
DUEL	0	3
DUES	0	3
DUG	2	2
DUGOUT	6	0
DUKE	2	4
DULL	2	2
DUMB	2	2
DUMMY	3	3
DUMPLING	5	5
DUN	2	0
DUNCE	4	3
DUNE	4	0
DUNGEON	0	5
DUNK	3	0
DUPLICATE	0	5
DURING	3	4
DUSK	3	3
DUSTER	3	6
DUSTY	3	3
DUTY	3	2
DWARF	4	4
DWELL	5	3
DWELLER	4	2
DYE	4	3
DYKE	0	6
DYNAMIC	6	0
DYNAMITE	4	4
EAGER	5	3
EAGERNESS	0	5
EARDRUM	4	0
EARN	3	2
EARNEST	0	5
EARRING	4	4
EARTHQUAKE	5	2
EARTHWORM	0	4
EASE	4	6
EASEL	4	0
EASILY	6	4
EASTERN	4	4
EATER	5	0
EAVES	0	5
EBB	6	0
ECHO	5	6
ECLIPSE	6	6
ECONOMIC	6	0
ECONOMICAL	0	6
ECONOMY	6	6
ECSTASY	6	0
EDIBLE	6	0
EDITION	3	5
EDITOR	5	2
EDULATE	6	4
EDUCATION	4	3
EDUCATIONAL	0	6
EEL	3	2
EFFECT	5	0
EFFICIENCY	0	6
EFFORT	6	2
EGGPLANT	0	6
EIGHTH	3	3
EIGHTY	2	3
EJECT	6	0
EL	5	0
ELABORATE	0	6
ELAPSE	0	6
ELASTIC	6	5
ELBOW	3	2
ELDER	4	0
ELDEST	0	6
ELECT	5	4
ELECTION	4	4
ELECTRIC	3	0
ELECTRICAL	5	6
ELECTRICIAN	0	5
ELECTROCUTE	0	6
ELECTRON	4	0
ELECTRONIC	4	0
ELEGANT	6	5
ELEMENT	5	0
ELEMENTARY	4	5
ELEVATE	0	4
ELEVATION	6	3
ELEVATOR	4	4
ELEVENTH	4	4
ELF	2	2
ELIMINATE	6	0
ELK	2	5
ELL	4	2
ELLIPTICAL	6	0
ELM	3	2
ELOPE	0	6
ELSEWHERE	0	5
EMANCIPATION	0	6
EMBARRASSMENT	0	6
EMBLEM	6	4
EMBRACE	0	5
EMBROIDER	0	5
EMBROIDERY	0	5
EMERALD	3	5
EMERGENCY	5	5
EMPEROR	0	4
EMPHASIS	0	6
EMPIRE	4	5
EMPLOY	0	4
EMPLOYER	0	6
EMPLOYMENT	0	6
EMPRESS	0	5
ENABLE	0	5
ENACT	0	6
ENAMEL	4	5
ENCAMP	0	6
ENCLOSE	5	5
ENCOURAGE	0	6
ENCYCLOPEDIA	3	0
ENDANGER	5	6
ENDEAVOR	0	6
ENDURE	0	5
ENEMY	4	3
ENERGY	4	5
ENFORCE	0	6
ENFORCEMENT	6	0
ENGAGE	5	4
ENGAGEMENT	4	5
ENGRAVE	0	6
ENJOY	2	3
ENJOYMENT	6	6
ENLARGE	0	6
ENNOBLE	0	6
ENORMOUS	5	5
ENROLL	0	4
ENROLLMENT	6	0
ENSIGN	0	5
ENTER	3	3
ENTERTAIN	6	4
ENTERTAINMENT	6	5
ENTHUSIASTIC	0	6
ENTIRE	6	3
ENTITLE	0	5
ENTRANCE	5	4
ENTREE	0	6
ENTRY	6	6
ENVIOUS	0	6
ENVIRONMENT	5	0
ENVY	5	6
EPIDEMIC	6	6
EQUAL	3	3
EQUATION	4	0
EQUATOR	6	4
EQUILATERAL	6	0
EQUIPMENT	3	0
EQUIVALENT	0	6
ERA	3	6
ERE	0	3
ERECT	0	4
ERMINE	0	6
EROSION	6	0
ERR	6	0
ERRAND	2	4
ERRAND-BOY	0	5
ERRAND-GIRL	0	5
ERROR	6	5
ERUPT	6	0
ERUPTION	0	6
ESCAPE	5	3
ESOPHAGUS	6	0
ESPECIALLY	5	6
ESSAY	5	0
ESSENTIAL	0	5
ESTABLISH	6	6
ESTABLISHMENT	6	6
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ESTIMATE	0	5
ETCH	0	3
ETCHING	0	6
ETERNAL	6	6
ETYMOLOGY	0	6
EVAPORATE	4	3
EVAPORATION	6	0
EVE	3	2
EVENT	3	4
EVERGREEN	3	4
EVERLASTING	0	5
EVERMORE	0	6
EVERSHARP	0	3
EVERY	2	0
EVERYDAY	4	0
EVERYTIME	3	0
EVIDENCE	6	6
EVIDENT	0	5
EVIL	5	4
EWE	3	0
EXACT	4	4
EXACTLY	6	5
EXAGGERATE	6	0
EXALT	0	3
EXAM	6	0
EXAMINATION	5	4
EXAMINE	5	4
EXAMPLE	4	3
EXCEED	0	6
EXCEL	0	6
EXCELLENT	3	2
EXCEPTION	0	6
EXCESSIVE	0	6
EXCHANGE	0	2
EXCITE	4	5
EXCITEMENT	5	5
EXCLAIM	5	4
EXCLAMATION	5	3
EXCLAMATORY	6	3
EXCLUSIVE	0	5
EXCURSION	0	4
EXCUSABLE	0	4
EXECUTE	0	6
EXECUTIVE	0	6
EXERCISE	2	3
EXERT	0	6
EXHALE	0	6
EXHAUST	5	6
EXHIBIT	4	5
EXHIBITION	0	5
EXIST	6	6
EXIT	2	2
EXOSPHERE	6	0
EXPAND	6	6
EXPANSION	0	6
EXPEDITION	3	6
EXPEND	0	5
EXPENSE	0	4
EXPENSIVE	6	5
EXPERIENCE	6	5
EXPERIMENT	4	6
EXPERT	5	5
EXPLAIN	5	3
EXPLANATION	5	6
EXPLODE	4	4
EXPLORATION	6	0
EXPLORE	2	4
EXPLORER	4	5
EXPLOSION	5	6
EXPLOSIVE	5	6
EXPONENT	6	0
EXPORT	5	5
EXPOSE	0	6
EXPOSITION	0	5
EXPRESS	2	2
EXPRESSION	0	5
EXQUISITE	0	6
EXTEND	0	4
EXTERIOR	0	6
EXTERNAL	0	6
EXTINCT	5	0
EXTRA	2	2
EXTRACT	0	6
EXTRACTION	0	6
EXTRAORDINARY	6	6
EXTRAVAGENT	0	6
EXTREME	6	5
EY	5	0
EYEBALL	5	3
EYEBROW	3	3
EYEGLASSES	0	3
EYELASH	3	3
EYELID	4	3
EYESIGHT	0	5
FA	2	2
FABLE	4	2
FABRIC	6	6
FABULOUS	5	0
FACET	4	0
FACIAL	3	0
FACILITY	0	5
FACT	2	3
FACTION	0	4
FACTOR	4	2
FACTORY	3	3
FACULTY	4	0
FAD	3	2
FADE	2	2
FAG	5	0
FAGGED	0	3
FAIL	2	2
FAILURE	6	5
FAIN	3	6
FAINT	4	2
FAIRY-TALE	0	5
FAIRYLAND	0	3
FAITH	2	3
FAITHFUL	0	2
FAKE	2	2
FALCON	3	4
FALLEN	0	4
FALLOUT	5	0
FALLOW	6	0
FALSEHOOD	0	4
FAME	2	2
FAMILIAR	0	5
FAMINE	0	6
FAMISH	6	0
FAMISHED	0	5
FAMOUS	3	3
FANG	4	0
FANNY	5	0
FANTASTIC	5	0

FARAWAY	6	0
FARE	3	2
FAREWELL	2	5
FARMHOUSE	5	4
FARMYARD	0	4
FASCINATE	5	0
FASHION	5	5
FASTENER	0	6
FASTER	3	0
FATE	3	2
FATHOM	5	0
FATIGUE	0	6
FAULT	5	3
FAULTY	0	6
FAVOR	5	4
FAVORABLE	0	5
FAVORITE	3	6
FAWN	3	3
FAY	2	2
FEAR	2	2
FEARFUL	0	6
FEAST	3	2
FEAT	4	2
FEATURE	4	4
FEDERAL	6	5
FEE	3	2
FEEBLE	0	4
FEELING	5	0
FELINE	6	0
FELLOWMEN	0	6
FEMALE	2	4
FEMININE	0	6
FEN	0	3
FENDER	3	4
FERRET	0	6
FERTILE	6	6
FERTILIZE	0	6
FERTILIZER	5	5
FESTIVAL	6	6
FETCH	5	2
FETE	0	4
FETLOCK	6	0
FEVER	5	3
FIB	3	3
FIBER	4	6
FIBERGLASS	6	0
FICTION	4	6
FIE	0	3
FIELDER	0	5
FIELDTRIP	5	0
FIEND	5	0
FIERCE	5	5
FIERY	0	6
FIFE	4	2
FIFTH	2	2
FIFTY-ONE	4	0
FIFTY-TWO	4	0
FIG	2	2
FIGHTER	5	5
FIGURE	4	2
FILAMENT	5	0
FILBERT	4	0
FILE	2	2
FILLER	6	0
FILLY	4	0
FILM	2	5
FILTER	5	6
FILTHY	0	5
FIN	2	2
FINAL	4	3
FINALLY	4	0
FINANCE	6	0
FINANCIAL	0	6
FINCH	3	0
FINDER	3	0
FIORD	6	6
FIR	2	2
FIRE-ALARM	0	4
FIRE-DRILL	0	3
FIRE-ESCAPE	0	3
FIREBALL	5	0
FIRECRACKER	5	6
FIREDRILL	4	0
FIREFLY	0	3
FIREHOUSE	6	0
FIREMEN	2	0
FIRETRUCK	4	0
FIREWORKS	6	4
FIRM	4	3
FIRSTAID	4	0
FISHBOWL	5	0
FISHER	4	0
FISHERIES	0	5
FISHERMAN	4	2
FISHINGPOLE	5	0
FISSION	6	0
FIST	2	2
FITNESS	3	0
FIVE	2	0
FIXTURE	6	6
FLAGPOLE	4	0
FLAGSTAFF	0	6
FLAIR	3	0
FLAK	5	0
FLAKE	2	2
FLAME	2	2
FLAMMABLE	5	0
FLANK	5	6
FLANNEL	0	5
FLAP	2	2
FLARE	4	0
FLASH	2	2
FLASHCARD	4	0
FLASHLIGHT	4	5
FLASK	6	4
FLATBOAT	0	6
FLATIRON	0	6
FLATTER	0	3
FLAVOR	3	3
FLAX	3	2
FLAY	3	0
FLEA	3	5
FLED	6	3
FLEE	3	2
FLEECE	0	5
FLEET	4	2
FLESH	3	4
FLEXIBLE	0	6
FLICK	4	0
FLIGHT	2	2
FLINCH	6	0
FLING	2	2
FLINT	3	2
FLIP	2	3
FLIPPER	5	0
FLIRT	5	3
FLIT	0	3
FLOAT	2	2
FLOCK	3	2
FLOG	6	6
FLOOD	3	2
FLORIST	6	4
FLOSS	0	4
FLOUNDER	5	4
FLOURISH	0	6
FLOW	2	2
FLOWN	3	3
FLU	2	0
FLUE	3	6
FLUFF	3	0
FLUFFY	5	4
FLUID	5	0
FLUNG	5	0
FLUNK	3	6
FLUSH	5	4
FLUSTER	6	0
FLUTE	3	3
FLUTTER	5	4
FLYER	0	3
FLYLEAF	0	6
FLYWAY	4	0
FOAL	4	0
FOAM	3	2
FOCUS	5	0
FOE	3	2
FOG	2	2
FOGGY	0	6
FOIL	3	3
FOLDER	3	6
FOLIAGE	0	6
FOLIO	0	6
FOLK	3	2
FOLLOWER	0	6
FOLLOWING	0	6
FOLLY	6	5
FOND	3	2
FOODSTUFF	0	6
FOOLISH	2	2
FOOTPRINT	0	5
FORAGE	0	6
FORBADE	0	5
FORBID	0	4
FORBIDDEN	0	4
FORCE	4	5
FORD	5	5
FORE	2	2
FORECAST	6	0
FOREFATHER	0	6
FOREFOOT	0	6
FOREHEAD	5	4
FOREIGN	5	3
FORELOCK	5	0
FOREMAN	0	5
FORENOON	0	3
FORESEE	0	6
FORESIGHT	0	6
FOREST	2	2
FORETHOUGHT	0	6
FOREVER	3	3
FORFEIT	0	6
FORGE	0	5
FORGET-ME-NOT	0	5
FORGIVE	4	3
FORGIVEN	0	5
FORGIVENESS	0	4
FORLORN	5	0
FORM	2	2
FORMAL	6	6
FORMATION	4	6
FORMER	4	5
FORMULA	6	0
FORSAKE	0	4
FORSAKEN	0	6
FORT	2	3
FORTIFY	0	6
FORTUNATE	6	5
FORTUNE	4	3
FORTY-EIGHT	4	0
FORTY-FIVE	3	0
FORTY-FOUR	4	0
FORTY-NINE	4	0
FORTY-ONE	3	0
FORTY-SIX	6	0
FORTY-THREE	4	0
FORTY-TWO	4	0
FORWARD	3	2
FOSSIL	4	0
FOSTER	6	3
FOUL	3	5
FOUNDATION	5	5
FOUNDER	6	5
FOUNDRY	0	6
FOUNTAIN-PEN	0	4
FOURSCORE	0	6
FOURSQUARE	4	0
FOURTEENTH	0	4
FOURTH	2	2
FOWL	5	2
FRACTION	3	4
FRACTIONAL	0	6
FRACTURE	6	0
FRAGILE	4	5
FRAGRANT	0	5
FRAIL	0	5
FRAME	2	2
FRANK	4	2
FRANKFURTER	0	4
FRANTIC	6	0
FRAY	0	5
FREAK	4	0
FRECKLE	3	4
FREE	2	2
FREEDOM	3	4
FREEWAY	4	0
FREEZER	4	0
FRENCHFRY	6	0
FREQUENT	0	5
FRESHMAN	0	5
FRET	6	2
FRIAR	0	3
FRICTION	5	6
FRIENDLY	2	5
FRIENDSHIP	5	4
FRIGATE	0	6
FRIGHT	2	2
FRIGHTEN	3	2
FRIGHTFUL	0	5
FRIGID	0	4
FRILL	6	0
FRO	4	0
FROCK	0	3
FROLIC	3	6
FRONTIER	4	6
FRONTROOM	6	0
FRONTWARD	5	6
FROSTY	5	0
FROWN	2	2
FRY	2	2
FRYER	6	0
FRYING-PAN	0	6
FUDGE	4	5
FUEL	4	3
FUGITIVE	6	0
FULCRUM	4	0
FULFILL	0	6
FULLBACK	0	6
FULLY	5	3
FUMBLE	5	3
FUME	6	0
FUMIGATE	0	3
FUNCTION	6	0
FUND	5	3
FUNDAMENTAL	0	5
FUNERAL	5	5
FUNGI	5	0
FUNGUS	6	0
FUNNEL	6	0
FURIOUS	6	4
FURL	0	3
FURNISH	0	3
FURROW	0	3
FURRY	3	0
FURTHER	6	4
FURY	6	0
FUSE	3	3
FUSELAGE	6	0
FUSS	2	2
FUTURE	3	3
FUZZ	4	0
GAB	5	0
GABLE	0	6
GADGET	3	0
GAG	3	2
GAIN	3	2
GAIT	4	4
GAL	4	0
GALAXY	5	0
GALE	5	2
GALL	3	2
GALLANT	6	6
GALLERY	3	6
GALLEY	5	6
GALLON	3	2
GALLOWS	0	6
GALOSHES	0	5
GAMBLE	4	4
GANDER	3	3
GANG	4	2
GAP	4	2
GARB	6	0
GARDENER	6	3
GARDENIA	6	0
GARDNER	3	0
GARGLE	5	0
GARLIC	4	6
GARMENT	4	3
GARNET	0	2
GARRISON	0	6
GARTER	0	3
GAS-MASK	0	5
GASEOUS	0	6
GASKET	6	0
GASP	5	0
GATEWAY	0	6
GATHER	4	2
GAUGE	4	0
GAUZE	0	6
GAY	2	2
GAZE	4	5
GEAR	3	3
GELDING	6	0
GEM	3	2
GENDER	0	6
GENERAL	3	3
GENERALLY	0	5
GENERATION	6	6
GENERATOR	4	0
GENEROUS	5	5
GENIUS	4	0
GENT	6	0
GENTLE	3	2
GENTLEMAN	4	3
GENTLEMEN	4	0
GENTLENESS	0	5
GENTRY	0	6
GENUINE	0	5
GEOGRAPHIC	6	0
GEOGRAPHICAL	0	5
GEOGRAPHY	3	3
GEOLOGIST	4	0
GEOLOGY	4	0
GEOMETRIC	6	0
GEOMETRY	4	6
GERUND	6	0
GHASTLY	6	0
GHOST	2	3
GIG	2	2
GIGANTIC	6	0
GIGGLE	4	6
GILL	2	2
GILT	0	6
GIN	3	6
GINGER	2	2
GINGER-ALE	0	6
GINGHAM	0	5
GIRDLE	4	0
GIRL-SCOUT	0	6
GIRLFRIEND	4	0
GIRLSCOUT	4	0
GIRTH	6	0
GIVEN	3	2
GIZZARD	6	0
GLACIER	5	5
GLADE	5	3
GLADNESS	0	2
GLANCE	6	3
GLAND	5	3
GLARE	4	3
GLASSFUL	0	4
GLASSWARE	0	6
GLAZE	6	5
GLAZIER	0	6
GLEAM	4	5
GLEAN	0	5
GLEE	4	2
GLEN	6	0
GLIDE	3	2
GLIMMER	0	5
GLITTER	5	6
GLOAT	5	0
GLOB	3	0
GLOBE	2	3
GLOOM	4	4
GLOOMY	4	4
GLORIOUS	0	5
GLORY	3	3
GLOSS	6	5
GLOSSY	0	5
GLOW	3	3
GNAT	4	2
GNAW	0	3
GNOME	0	4
GNU	6	0
GOAL	2	3
GOB	4	0
GOBLIN	4	5
GOCART	6	0
GOD	2	2
GODDESS	0	4
GODFATHER	0	6
GODMOTHER	0	3
GOLDENROD	0	3
GOLDFINCH	6	5
GOLDFISH	3	2
GOLFBALL	5	0
GONDOLA	0	6
GONG	4	2
GOOD-BYE	5	0
GOOD-DAY	0	2
GOODBY	3	0
GOODBYE	3	0
GOODNESS	4	2
GOPHER	5	4
GORE	6	0
GORGE	4	5
GORGEOUS	5	5
GORILLA	4	5
GOSSIP	6	6
GOURD	5	0
GOVERN	0	4
GOVERNMENT	4	4
GOVERNOR	5	4
GRACE	4	2
GRACEFUL	4	3
GRACIOUS	0	5
GRAD	3	0
GRADER	3	0
GRADUAL	0	6
GRADUATE	6	4
GRADUATION	6	4
GRAFT	6	0
GRAM	4	0
GRAMMAR	4	3
GRAND	2	2
GRANDCHILD	0	2
GRANDEUR	0	6
GRANDMOM	6	0
GRANDSON	3	3
GRANDSTAND	3	5
GRANGE	6	0
GRANITE	5	4
GRANT	3	3
GRAPEVINE	0	5
GRAPH	5	6
GRAPHIC	0	5
GRAPHOPHONE	0	5
GRASP	6	0
GRASSLAND	6	0
GRASSY	4	6
GRATE	2	2
GRATEFUL	0	4
GRATITUDE	0	4
GRAVE	2	2
GRAVEL	4	4
GRAVESTONE	4	0
GRAVEYARD	0	6
GRAVITY	4	0
GRAVY	4	0
GRAZE	4	4
GREASE	3	2
GREASY	0	4
GREAT GRAND-[illegible]	0	6
GREATER	3	0
GREATNESS	0	5
GREED	0	3
GREEDY	5	2
GREENHOUSE	5	4
GREET	2	2
GREETING	0	6
GREY	3	3
GRID	6	0
GRIDDLE	0	6
GRIEF	6	4
GRIEVE	0	5
GRIEVOUS	0	6
GRILL	2	2
GRIM	5	0
GRIME	6	0
GRIN	2	2
GRIND	3	2
GRIP	3	2
GRIPE	5	0
GRIT	5	2
GRIZZLED	0	6
GROAN	4	4
GROCER	0	2
GROOM	3	0
GROPE	4	4
GROSS	4	3
GROTTO	0	6
GROUCH	6	0
GROUCHY	0	4
GROUND-HOG	0	5
GROUNDHOG	6	0
GROUP	2	3

GROUSE	6	0
GROUT	6	0
GROVE	4	3
GROWL	4	2
GROWN	2	2
GROWNUP	5	0
GROWTH	2	4
GRUB	0	2
GRUMBLE	0	5
GRUMPY	6	0
GRUNT	4	2
GUARANTEE	0	3
GUARD	3	3
GUARDIAN	0	5
GUEST	6	3
GUIDE	4	5
GUILTY	6	5
GUINEAPIG	3	0
GUITAR	3	0
GULF	2	4
GULL	4	0
GULLY	5	5
GULP	5	4
GUNPOWDER	6	5
GUPPY	4	0
GUST	6	4
GUT	3	0
GUTTER	5	3
GYM	2	0
GYMNASIUM	5	4
GYMNASTICS	0	2
GYPSY	5	3
HABIT	3	2
HACK	3	2
HACKAMORE	6	0
HAG	3	2
HAIL	2	2
HAIR-NET	0	6
HAIR-RIBBON	0	6
HAIRBAND	3	0
HAIRCUT	5	3
HAIRDRESSER	0	6
HAIRPIN	4	3
HAIRY	4	0
HALE	4	5
HALF-DOLLAR	6	5
HALF-MAST	0	6
HALIBUT	6	6
HALLWAY	6	0
HALT	4	2
HALTER	4	6
HALVES	0	4
HAM	2	2
HAMBURGER	2	5
HAMLET	0	5
HAMMOCK	0	4
HAMPER	5	5
HAMSTER	3	0
HANDBAG	5	5
HANDBALL	0	4
HANDCUFF	0	5
HANDFUL	0	2
HANDICAP	0	4
HANDSOME	3	2
HANDWRITING	4	4
HANDY	2	2
HANGER	3	3
HAPPEN	2	2
HAPPILY	6	4
HAPPINESS	2	3
HARBOR	4	4
HARDBALL	3	0
HARDSHIP	0	5
HARDWARE	0	5
HARDWOOD	6	0
HARDY	5	0
HARK	5	2
HARM	2	2
HARMFUL	4	6
HARMONICA	5	5
HARMONY	5	0
HARNESS	4	4
HARP	3	2
HARPOON	0	5
HARROW	0	5
HARSH	0	5
HART	4	2
HARVEST	6	5
HASH	4	3
HASTE	4	2
HASTEN	0	3
HASTILY	0	6
HATCH	2	2
HATEFUL	6	6
HATPIN	0	5
HAUNT	5	5
HAVEN	6	0
HAW	5	0
HAWK	3	4
HAYCOCK	0	3
HAYLOFT	6	0
HEADACHE	5	3
HEADBAND	3	0
HEADBOARD	6	0
HEADING	0	3
HEADLIGHT	5	0
HEADLINE	6	0
HEADQUARTER	0	5
HEAL	3	2
HEALTH	2	2
HEALTHFUL	6	5
HEAP	3	2
HEARSE	6	6
HEARTY	5	3
HEAT	2	2
HEATER	2	3
HEATH	4	3
HEATHER	6	0
HEAVE	5	0
HEAVEN	2	2
HEDGE	6	4
HEDGEHOG	0	3
HEED	6	2
HEIFER	6	6
HEIGHT	2	2
HEIR	4	3
HEIRESS	0	6
HELD	3	2
HELICOPTER	3	0
HELIUM	5	0
HELL	2	2
HELM	0	5
HELMET	4	6
HELPFUL	2	4
HELPLESS	3	6
HEMISPHERE	5	4
HEMLOCK	4	6
HEMSTITCH	0	6
HENCE	0	5
HENCEFORTH	0	6
HERB	4	0
HERD	3	2
HERDSMAN	0	6
HEREAFTER	0	5
HEREBY	0	6
HEREIN	0	3
HERMIT	5	6
HERO	2	3
HEROIC	0	6
HEROINE	6	5
HERRING	5	3
HESITATE	0	6
HESITATION	0	6
HEXAGON	6	0
HICCUP	4	0
HID	3	2
HIDDEN	0	2
HIDE-AND-SEEK	0	4
HIGH-CHAIR	0	4
HIGH-JUMP	0	6
HIGH-SCHOOL	0	4
HIGHER	3	0
HIGHJUMP	6	0
HIGHLAND	5	5
HIGHSCHOOL	4	0
HIGHWAY	2	5
HIKE	2	2
HILARIOUS	6	0
HILLSIDE	5	0
HILLY	0	2
HIND	2	2
HINDER	0	6
HINGE	4	3
HINT	3	3
HIP	2	2
HIPPOPOTAMUS	2	2
HIRE	3	2
HISS	4	3
HISTORIC	6	6
HISTORICAL	6	5
HISTORY	3	2
HIVE	2	2
HO	4	2
HOAR	6	0
HOARD	5	5
HOARSE	4	2
HOBBY	2	0
HOBO	5	0
HOCK	6	0
HOCKEY	3	3
HOD	6	0
HOG	2	2
HOLDER	4	3
HOLIDAY	2	2
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HOLLOW	3	3
HOLLY	2	2
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HOLY	2	3
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HOMELIKE	0	6
HOMELY	5	5
HOMER	5	0
HOMERUN	5	0
HOMESICK	6	5
HOMESTEAD	6	0
HOMEWARD	0	4
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HOMINY	0	4
HOMONYM	2	0
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HONEST	6	3
HONESTY	5	4
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HONEYMOON	6	0
HONEYSUCKLE	0	6
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HONOR	3	2
HONORABLE	0	5
HOOD	2	2
HOOF	4	2
HOOP	4	2
HOOT	3	2
HOPEFUL	6	4
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HOPSCOTCH	6	3
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HORIZONTAL	5	0
HORMONE	5	0
HORNET	4	5
HORRIBLE	4	6
HORRID	5	0
HORROR	3	4
HORSE-RADISH	0	6
HORSEBACK	4	3
HORSEFLY	0	5
HORSEMAN	0	6
HORSEPOWER	0	6
HOSIERY	0	6
HOST	2	3
HOSTESS	2	6
HOSTILITY	0	6
HOTDOG	3	0
HOTLUNCH	5	0
HOTROD	4	0
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HOUR	2	2
HOUSEHOLD	6	5
HOUSEKEEPER	3	5
HOUSEWIFE	0	5
HOUSEWORK	0	6
HOVEL	0	5
HOVER	6	6
HOWDY	5	0
HOWEVER	4	2
HOWL	3	2
HUB	5	3
HUBCAP	6	0
HUCKLEBERRY	0	5
HUE	5	2
HUG	2	3
HUGE	2	2
HULA	6	0
HULL	5	2
HUM	2	2
HUMAN	3	4
HUMANE	0	3
HUMANITY	0	6
HUMBLE	0	4
HUMID	6	0
HUMIDITY	6	6
HUMMINGBIRD	2	0
HUMOR	6	5
HUMOROUS	6	0
HUMP	2	2
HUMUS	6	0
HUNCH	6	0
HUNCHBACK	0	6
HUNDREDTH	0	5
HUNGER	4	4
HUNK	0	2
HUNTER	3	2
HURDLE	6	0
HURRAY	6	0
HURRICANE	5	5
HUSBAND	3	3
HUSH	2	2
HUSK	4	3
HUSKY	6	5
HUSTLE	5	6
HUT	2	2
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HYACINTH	0	3
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HYDROELECTRIC	5	0
HYDROELECTRICITY	4	0
HYDROGEN	4	0
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HYDROPLANE	5	0
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HYGIENE	6	3
HYMN	5	5
HYPHEN	6	5
HYPOCRITE	0	6
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ICEBOX	5	2
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ICESKATE	5	0
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ICY	5	3
ID	5	0
IDEAL	4	4
IDENTIFY	5	0
IDIOT	4	6
IDIOTIC	5	0
IDLE	6	4
IDLENESS	0	5
IDOL	6	0
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IGNITION	6	0
IGNORANT	6	5
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ILLNESS	0	5
ILLUSTRATE	3	4
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IMAGINARY	0	6
IMAGINATION	4	4
IMAGINE	4	5
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IMMEDIATE	0	4
IMMEDIATELY	6	0
IMMENSE	6	5
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IMMORTAL	0	6
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IMPERATIVE	6	4
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IMPLEMENT	0	6
IMPLY	6	0
IMPOLITE	0	6
IMPORT	5	5
IMPORTANCE	0	5
IMPORTANT	2	4
IMPOSSIBLE	3	0
IMPRESS	0	6
IMPRESSION	0	6
IMPRISON	0	6
IMPROPER	3	5
IMPROVE	4	4
IMPROVEMENT	6	4
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INAUGURATION	0	6
INCENSE	0	6
INCH	2	2
INCIDENT	0	6
INCLINE	2	6
INCLOSE	0	4
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INCOME	0	3
INCOMPLETE	6	0
INCORPORATE	0	5
INCORPORATION	0	6
INCORRECT	0	4
INCREASE	0	4
INCREDIBLE	4	0
INCUBATOR	5	0
INDEED	5	2
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INDEPENDENCE	5	5
INDEPENDENT	5	5
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INDIGESTION	6	0
INDIGNANT	0	6
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INDIRECT	6	0
INDIVIDUAL	6	6
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INDOORS	3	2
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INDUSTRIOUS	0	5
INDUSTRY	4	4
INFANT	5	4
INFECTION	6	0
INFERIOR	0	5
INFINITY	4	0
INFLUENCE	6	5
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INFORM	5	3
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INHABITANT	0	6
INHALE	0	6
INHERIT	0	6
INIMITABLE	0	6
INITIAL	2	5
INJECTION	6	0
INJURE	5	4
INJURIOUS	0	6
INJURY	0	4
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INKSTAND	0	5
INKWELL	0	2
INLAND	4	0
INLET	6	6
INN	3	2
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INNOCENT	0	5
INNUMERABLE	0	4
INQUIRE	6	0
INQUISITIVE	0	6
INSANE	5	4
INSCRIPTION	0	6
INSECT	2	4
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INSERT	0	6
INSIST	0	5
INSPECT	6	3
INSPECTION	0	2
INSPECTOR	4	4
INSPIRATION	0	6
INSPIRE	6	0
INSTANCE	0	5
INSTANT	5	5
INSTINCT	0	6
INSTRUCTION	5	4
INSTRUCTOR	6	0
INSTRUMENT	4	5
INSULATION	6	0
INSULATOR	0	6
INSULT	6	0
INSURANCE	5	3
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INTEGRITY	3	0
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INTELLIGENT	5	5
INTEND	5	3
INTENSE	0	6
INTERCEDE	0	6
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INTEREST	2	4
INTERESTING	0	5
INTERFERE	0	5
INTERIOR	6	6
INTERJECTION	6	6
INTERMEDIATE	6	5
INTERN	6	0
INTERNAL	6	0
INTERNATIONAL	4	5
INTERPRET	0	6
INTERROGATE	0	4
INTERROGATION	0	6
INTERROGATIVE	5	5
INTERURBAN	0	5
INTERVAL	0	6
INTERVIEW	0	6
INTESTINE	4	6
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INTRANSITIVE	0	6
INTRODUCE	6	2
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INVADE	0	6
INVALID	0	4
INVENT	4	5
INVENTION	4	2
INVENTIVE	0	6
INVENTOR	6	5
INVERT	6	0
INVERTEBRATE	4	0
INVEST	0	5
INVESTIGATE	0	4
INVESTMENT	6	6
INVINCIBLE	0	6
INVISIBLE	6	5
INWARD	6	0
IODINE	5	6
IONOSPHERE	6	0
IRIS	4	2
IRREGULAR	0	4
IRREPROACHABLE	0	6
IRRIGATE	0	6
IRRIGATION	0	5
ISLAND	2	2
ISLE	5	5
ISSUE	5	5
ISTHMUS	0	5
ITCH	4	2
ITEM	4	6
IVORY	5	4
IVY	2	6
JAB	6	0
JACK	3	2
JACK-IN-THE-BOX	5	0
JACKAL	0	3
JACKASS	5	6
JACKET	2	2
JACKKNIFE	5	4
JACKRABBIT	5	0
JADE	6	0
JAGGED	6	0
JAGUAR	5	6
JAM	2	2
JAVELIN	6	0
JAZZ	4	5
JEALOUS	6	0
JEANS	4	0
JEEP	2	0
JELL	6	4
JELLYFISH	0	6
JERK	3	5
JEST	0	3
JESTER	0	5
JET	2	3
JEWEL	4	3
JEWELER	0	6
JEWELRY	5	4
JIGSAW	6	0

F7

JINGLE	5	4
JINX	5	0
JOBBER	0	6
JOCKEY	4	4
JOG	3	0
JOIN	2	2
JOINT	4	3
JOIST	0	6
JOKE	2	2
JOKER	4	0
JOLLY	2	2
JOSTLE	0	6
JOURNAL	0	5
JOURNEY	4	3
JOY	2	2
JOYFUL	5	4
JOYOUS	0	5
JUDGE	4	3
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JUDGMENT	0	5
JUDICIAL	0	6
JUDO	5	0
JUG	2	2
JUGGLE	5	0
JUGGLER	6	0
JUICY	0	4
JUMBLE	0	5
JUMBO	5	0
JUMPER	4	6
JUMPING-JACK	0	3
JUMPROPE	4	0
JUNCTION	4	5
JUNGLE	2	3
JUNIOR	4	2
JURISDICTION	0	6
JURY	5	5
JUSTICE	4	3
JUSTIFY	0	6
JUTE	0	6
JUVENILE	6	0
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KARATE	6	0
KAYAK	5	0
KEEN	3	2
KEEPER	2	3
KEEPSAKE	0	6
KEG	0	2
KELP	5	0
KENNEL	0	6
KERNEL	5	6
KEROSENE	0	5
KETCH	6	0
KETCHUP	5	0
KEYHOLE	0	3
KHAKI	0	6
KICKBALL	3	0
KIDNAP	6	4
KIDNEY	4	0
KILLDEER	2	0
KILLER	3	0
KILN	4	0
KILOMETER	6	0
KIMONO	0	6
KIN	2	2
KINDLE	0	4
KINDLY	4	3
KINDNESS	4	3
KINDRED	0	6
KINGDOM	3	2
KINGFISHER	0	3
KINK	5	0
KIT	2	2
KNACK	0	6
KNAPSACK	0	3
KNAT	6	0
KNAVE	6	4
KNEAD	6	6
KNEEL	3	3
KNEESOCK	6	0
KNELL	0	3
KNELT	0	3
KNICKERS	0	5
KNICKKNACK	0	6
KNIGHTHOOD	0	4
KNIVE	4	0
KNOWLDEGE	0	3
KNOWLEDGE	3	0
KNOWN	3	2
KNUCKLE	5	5
KODAK	0	5
LA	2	2
LAB	3	0
LABEL	3	3
LABOR	4	3
LABORATORY	3	5
LABORER	0	6
LACK	2	2
LACQUER	0	6
LAD	2	2
LADDIE	0	3
LADEN	0	3
LADLE	6	4
LADYBUG	2	0
LAG	2	2
LAGOON	6	0
LAIN	5	2
LAIR	3	2
LAMBKIN	0	3
LAME	2	2
LAMP	2	0
LAMPPOST	0	5
LAMPSHADE	0	6
LANCE	4	3
LANDLORD	0	3
LANDSCAPE	6	4
LANE	2	2
LANGUAGE	2	0
LANK	0	3
LANOLIN	5	0
LARD	4	2
LASH	4	3
LASS	4	2
LASSIE	0	3
LASSO	0	3
LATCH	3	2
LATER	2	0
LATH	0	6
LATHER	4	0
LATITUDE	4	4
LATTER	2	3
LAUGHTER	4	4
LAUNCH	5	5
LAUNCHER	6	0
LAVA	3	6
LAVATORY	4	0
LAVE	4	0
LAW	2	2
LAWFUL	0	4
LAWNMOWER	4	0
LAWYER	4	3
LAYER	6	5
LAZINESS	0	6
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LEACH	5	0
LEAGUE	5	5
LEAK	2	2
LEAN	2	2
LEAP	2	2
LEASE	5	5
LEASH	4	0
LEAST	3	2
LEAVES	0	3
LECTURE	6	5
LED	2	2
LEDGE	4	4
LEDGER	0	6
LEE	4	0
LEECH	0	6
LEEK	0	6
LEER	4	5
LEFT-FIELDER	0	5
LEGAL	0	5
LEGEND	5	6
LEGION	0	6
LEGISLATIVE	0	6
LEGISLATURE	5	6
LEI	5	0
LEISURE	0	6
LEMONADE	3	3
LEND	2	2
LENGTH	5	3
LENS	5	3
LENT	2	2
LEOPARD	4	4
LEOTARD	6	0
LESS	2	2
LESSEN	0	6
LEST	4	2
LETTER-BOX	0	3
LETTER-FILE	0	6
LETTER-PRESS	0	6
LEVEE	0	5
LEVEL	4	4
LEY	0	3
LIABLE	0	5
LIAR	3	2
LIBERAL	0	6
LIBERTY	3	2
LIBRARIAN	3	0
LICE	3	2
LICENSE	5	5
LICORICE	0	5
LIEUTENANT	0	5
LIFE	2	2
LIFEBOAT	0	6
LIFESAVER	0	4
LIGAMENT	6	0
LIGHTBULB	5	0
LIGHTEN	4	0
LIGHTER	6	0
LIGHTHOUSE	4	2
LIGHTSWITCH	6	0
LIKELY	0	6
LIKENESS	6	6
LIKEWISE	0	6
LILY-OF-THE-VAL	0	3
LIMB	3	3
LIMBER	6	0
LIME	2	2
LIMESTONE	4	5
LIMIT	3	5
LIMOUSINE	6	0
LIMP	5	4
LINDEN	0	6
LINEAR	0	5
LINEN	3	2
LINER	3	0
LINGER	5	3
LINIMENT	0	6
LINING	0	3
LINK	3	2
LINOLEUM	0	6
LINSEED-OIL	0	6
LINT	5	3
LIPSTICK	4	4
LIQUID	4	5
LIQUOR	5	4
LIRE	0	6
LIST	2	2
LISTENER	3	0
LITER	6	0
LITERATURE	5	6
LITTER	2	2
LIVELY	5	5
LIVER	3	3
LIVERWURST	0	6
LIVESTOCK	6	0
LIVINGROOM	4	0
LIZARD	3	4
LLAMA	4	6
LOAFER	0	6
LOAN	4	3
LOAVES	0	3
LOBBY	5	0
LOBSTER	3	5
LOCAL	3	5
LOCATE	5	4
LOCATION	4	4
LOCKET	2	4
LOCOMOTIVE	6	4
LOCUST	0	6
LODGE	4	3
LOFT	5	3
LOFTY	0	6
LOGANBERRY	0	6
LOGGER	4	0
LOIN	3	2
LOLL	0	6
LOLLIPOP	3	0
LOLLYPOP	6	2
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LONELY	4	3
LONESOME	3	3
LONGITUDE	4	4
LOOKING-GLASS	0	3
LOOKOUT	4	5
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LOON	4	3
LOOP	3	2
LOOT	3	6
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LOPE	3	0
LORD	2	2
LORE	4	0
LOSE	2	2
LOSS	4	2
LOTION	4	0
LOTTO	0	6
LOUDSPEAKER	4	0
LOUNGE	5	6
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LOUSY	6	0
LOVABLE	0	4
LOVER	4	3
LOVING	0	3
LOVINGLY	0	5
LOWER	4	4
LOWLAND	6	6
LOYAL	5	4
LOYALTY	0	2
LUCKY	2	3
LUG	3	3
LULL	0	5
LULLABY	0	3
LUMBERING	0	4
LUMBERYARD	0	5
LUMINOUS	6	0
LUMP	2	2
LUNAR	6	0
LUNCHBOX	3	0
LUNCHEON	6	6
LUNCHPAIL	3	0
LUNG	3	3
LURE	5	0
LUST	0	3
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LYNX	6	5
MACARONI	6	4
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MACHINEGUN	5	0
MACHINIST	0	6
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MADAM	5	5
MADAME	6	0
MADNESS	0	6
MAGIC	2	2
MAGICIAN	6	5
MAGMA	4	0
MAGNET	2	6
MAGNIFICENT	5	4
MAGNIFY	0	6
MAGNOLIA	0	6
MAGPIE	0	3
MAHOGANY	6	5
MAIDEN	5	3
MAIM	0	3
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MAINLY	6	0
MAINTAIN	0	6
MAIZE	0	5
MAJESTIC	6	0
MAJESTY	0	5
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MAJORITY	6	6
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MALLARD	6	0
MALLET	0	6
MALT	2	2
MAN	3	0
MAMA	2	0
MAMMAL	2	0
MAMMY	6	2
MANAGE	5	4
MANAGEABLE	0	4
MANAGEMENT	4	5
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MANE	2	2
MANFUL	0	6
MANGANESE	6	0
MANGLE	6	0
MANGO	6	0
MANHOOD	0	5
MANICURE	0	5
MANKIND	0	4
MANLY	6	0
MANNER	2	2
MANNISH	0	5
MANOR	6	0
MANSION	5	5
MANTEL	0	5
MANTLE	4	6
MANUFACTORY	0	6
MANUFACTURE	5	3
MANUFACTURER	0	6
MANUFACTURING	0	4
MANUSCRIPT	0	6
MAP	2	2
MAR	2	2
MARCEL	0	5
MARE	2	2
MARGARINE	5	0
MARGIN	4	3
MARIGOLD	5	6
MARINE	3	6
MARINER	6	6
MARKER	3	4
MARLIN	6	0
MARMALADE	0	5
MAROON	4	6
MARRIAGE	4	4
MARROW	5	0
MARRY	2	2
MARSH	5	3
MARSHAL	5	0
MARSHMALLOW	4	6
MARTYR	0	6
MARVEL	0	5
MARVELOUS	6	3
MASCOT	4	5
MASCULINE	5	6
MASH	2	2
MASHIE	0	6
MASK	2	2
MASON	6	4
MASS	3	2
MASSACRE	6	0
MASSIVE	0	6
MAST	2	2
MASTER	2	2
MAT	2	2
MATE	2	2
MATERIAL	2	4
MATH	2	0
MATHEMATICS	4	6
MATURE	5	0
MATURITY	5	0
MAUL	0	2
MAW	3	0
MAXIMUM	6	0
MAYONNAISE	0	5
MAYOR	3	4
MAZE	4	5
MEAD	5	0
MEADOW-LARK	4	3
MEAL	3	2
MEANT	3	2
MEASLES	5	0
MEASUREMENT	5	0
MECHANIC	6	6
MECHANICAL	5	0
MEDAL	4	3
MEDDLE	0	4
MEDIAN	0	6
MEDICAL	6	5
MEDIUM	3	4
MEDULLA	6	0
MEEK	4	2
MELLOW	5	3
MELODY	4	6
MELON	5	3
MEMBER	2	3
MEMBERSHIP	0	4
MEMBRANE	5	0
MEMENTO	0	6
MEMO	6	0
MEMORANDUM	0	5
MEMORIAL	3	4
MEMORY	2	4
MENACE	6	5
MEND	2	2
MENTAL	5	4
MENTION	6	3
MENU	2	5
MERCHANT	6	3
MERCURY	4	5
MERCY	5	4
MERE	3	3
MERIDIAN	5	5
MERIT	6	4
MERMAID	5	0
MERRILY	0	3
MESSAGE	4	3
MESSENGER	3	3
MESSY	3	0
METAL	2	4
METAMORPHIC	4	0
METEOR	4	6
METEORITE	6	0
METER	2	3
METHOD	4	4
METRIC	6	0
METROPOLITAN	3	4
MEW	2	2
MI	2	2
MICA	6	0
MICROBE	5	0
MICROPHONE	4	0
MICROSCOPE	4	0
MICROSCOPIC	4	0
MID	5	3
MIDDAY	0	4
MIDDY	0	4
MIDGET	4	5
MIDIRON	0	5
MIDNIGHT	4	3
MIDST	0	3
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MIGRATION	6	6
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MILITARY	6	5
MILKSHAKE	4	0
MILKWEED	0	3
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MILLER	4	0
MILLIMETER	5	0
MILLINER	0	4
MILLINERY	0	5
MILLION	3	2
MILLIONAIRE	0	6
MINCE	0	4
MINCEMEAT	0	5
MINER	4	3
MINERAL	4	5
MINGLE	6	6
MINIMUM	6	0
MINISTER	5	5
MINK	3	2
MINNOW	0	5
MINOR	4	5
MINORITY	6	0
MINSTREL	0	6
MINT	3	3
MINUEND	0	3
MINUET	0	4
MINUS	4	4
MIRACLE	5	6
MIRE	0	3
MIRROR	2	2
MISBEHAVE	0	6
MISCELLANEOUS	5	5
MISCHIEF	5	3
MISCHIEVOUS	0	5
MISCONDUCT	0	6
MISDEED	0	6
MISER	6	0
MISERABLE	6	5
MISERY	5	0
MISFORTUNE	0	6
MISLEAD	0	6
MISLED	0	6
MISSILE	4	0

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MISSION	4	6
MISSIONARY	0	6
MISSPELL	0	4
MIST	3	2
MISTER	2	2
MISTRESS	3	3
MISTY	4	0
MISUNDERSTAND	0	6
MITE	3	2
MITT	2	2
MITTEN	2	2
MIXTURE	3	5
MOAN	3	5
MOAT	3	3
MOB	4	3
MOBILE	3	6
MOCCASIN	6	4
MOCK	3	2
MODE	0	3
MODEL	3	5
MODERATE	0	5
MODERN	3	3
MODEST	0	3
MODIFY	0	6
MOIST	4	3
MOISTURE	6	6
MOLAR	4	5
MOLASSES	0	4
MOLD	2	2
MOLDING	0	5
MOLE	2	3
MOLECULE	4	0
MOLL	4	0
MOLLUSK	6	0
MOLTEN	6	0
MOM	2	0
MOMENT	6	2
MOMMY	2	0
MONARCH	6	5
MONARCHY	0	6
MONASTERY	6	0
MONGREL	6	6
MONITOR	3	3
MONK	6	5
MONOGRAM	0	6
MONOPLANE	6	0
MONOPOLY	6	0
MONORAIL	6	0
MONSIEUR	0	5
MONSTER	2	3
MONSTROUS	0	5
MONTHLY	0	4
MONUMENT	5	2
MOOD	3	2
MOONLIGHT	4	3
MOOR	2	2
MOOSE	2	3
MOP	2	2
MOPE	4	3
MORAL	5	5
MORE	2	0
MORN	3	2
MORNING-GLORY	0	4
MORON	6	0
MORROW	0	2
MORSEL	0	6
MORTAR	6	0
MORTGAGE	0	6
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MOSQUITO	6	3
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MOTEL	3	0
MOTH	2	2
MOTH-BALL	0	6
MOTION	5	4
MOTORBOAT	0	5
MOTORCYCLE	4	3
MOTORIST	0	6
MOTTO	3	3
MOULD	0	2
MOULDING	0	5
MOUND	4	3
MOUNT	4	5
MOUNTAINOUS	0	5
MOURN	0	4
MOURNFUL	0	5
MOUSTACHE	0	4
MOVABLE	0	4
MOVEMENT	5	4
MOVIE	2	0
MOVIESTAR	5	0
MOW	2	2
MOWER	3	0
MOWN	0	6
MUCILAGE	0	6
MUCK	6	0
MUFF	3	2
MUFFIN	0	5
MUFFLER	6	5
MUG	2	2
MULBERRY	0	4
MULL	0	6
MULTIPLE	0	5
MULTIPLICAND	0	3
MULTIPLICATION	3	2
MULTIPLIER	3	3
MULTIPLY	3	2
MUM	4	3
MUMBLE	4	6
MUMMY	4	0
MUMPS	4	4
MUNCH	2	3
MUNICIPAL	0	6
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MURDER	2	3
MURMUR	0	2
MUSCLE	3	2
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MUSCULAR	6	0
MUSE	0	3
MUSEUM	2	3
MUSH	2	2
MUSHROOM	4	3
MUSIC	0	2
MUSICAL	5	4
MUSICIAN	5	5
MUSK	0	6
MUSKET	5	0
MUSKMELON	0	5
MUSKRAT	4	5
MUSLIN	0	5
MUSS	6	3
MUSTACH	6	0
MUSTANG	4	0
MUSTARD	4	3
MUTE	6	5
MUTT	2	0
MUTTER	6	4
MUTTON	0	2
MUTUAL	6	0
MYSTERIOUS	6	6
NAG	2	2
NAIL-FILE	0	6
NAKED	0	5
NAPE	3	0
NARCOTIC	6	0
NARROW	2	2
NASTY	3	3
NATION	3	3
NATIONAL	3	2
NATIONALITY	0	5
NATIVE	4	4
NATURAL	4	4
NATURALIZE	0	6
NATURE	2	4
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NAVIGABLE	0	6
NAVIGATE	6	5
NAVIGATION	0	5
NAVY	2	2
NAY	2	2
NEAT	2	2
NEATNESS	5	3
NECESSARY	6	4
NECESSITY	0	6
NECKLACE	3	0
NECKLESS	6	0
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NEE	5	6
NEEDY	6	6
NEGATIVE	2	6
NEGLECT	6	4
NEIGH	5	2
NEIGHBORHOOD	5	6
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NEPHEW	4	3
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NERVOUS	4	4
NESTLE	0	6
NET	2	2
NETTLE	6	5
NETWORK	4	0
NEUTRON	4	0
NEVERTHELESS	0	5
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NICK	3	2
NIECE	4	4
NIGH	4	3
NIGHTIME	6	0
NIGHTINGALE	0	3
NIGHTTIME	0	3
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NIMBLE	0	3
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NIP	2	2
NIPPLE	0	6
NIPPY	6	0
NIT	2	0
NITRATE	6	6
NITROGEN	3	0
NOBILITY	0	5
NOBLE	6	3
NOD	3	2
NOISELESS	0	6
NOMINATE	0	6
NONFICTION	5	0
NONSENSE	6	3
NOODLE	5	6
NOOK	2	2
NOONTIME	0	3
NOOSE	6	3
NOPE	3	0
NORMAL	5	5
NORTH-POLE	0	3
NORTHEAST	4	0
NORTHERN	4	4
NORTHSOUTH	6	0
NORTHWEST	3	3
NOSECONE	6	0
NOSEY	5	0
NOSTRIL	5	5
NOTCH	0	6
NOTEBOOK	3	4
NOTED	0	6
NOTICE	4	4
NOTICEABLE	0	4
NOTIFY	0	6
NOTION	0	3
NOUGHT	0	3
NOUN	3	5
NOURISH	0	5
NOVEL	5	6
NOVELTY	0	6
NOWHERE	4	4
NUCLEAR	5	0
NUCLEUS	6	0
NUDGE	6	0
NUGGET	4	0
NUMB	4	0
NUMERAL	3	6
NUMERATION	0	4
NUMERATOR	5	4
NUMEROUS	6	5
NUN	3	2
NURSERY	0	5
NUTCRACKER	0	4
NUTMEG	0	4
NUTTY	3	0
NYLON	4	0
O	0	2
O-CLOCK	2	0
OATH	0	6
OBEDIENCE	0	5
OBEDIENT	6	3
OBEY	2	2
OBJECT	4	4
OBJECTION	0	4
OBLIGE	0	4
OBLONG	5	2
OBOE	5	0
OBSCENE	0	4
OBSERVATION	0	6
OBSERVATORY	6	0
OBSERVE	6	4
OBSIDIAN	6	0
OBTAIN	0	5
OBTAINABLE	0	5
OBTUSE	5	0
OBVIOUS	0	6
OCCASION	0	5
OCCUPATION	5	5
OCCUPY	6	4
OCCUR	0	6
OCEANOGRAPHY	3	0
OCTAGON	6	0
OCTOPUS	2	0
ODD	3	2
ODDBALL	6	0
ODOR	3	6
OFFEND	0	6
OFFENSE	0	6
OFFER	5	4
OFFICER	3	3
OFFICIAL	5	4
OILCLOTH	0	5
OINTMENT	0	6
OKAY	4	0
OLIVE	3	2
OLIVE-OIL	0	6
OMELET	6	0
OMIT	5	6
ONTO	3	0
ONW	6	0
ONWARD	5	5
OPAL	6	5
OPENING	5	4
OPERA	4	0
OPERATE	5	5
OPERATION	4	2
OPERATOR	5	6
OPERETTA	0	5
OPINION	0	5
OPOSSUM	0	6
OPPORTUNITY	0	5
OPPOSITE	3	5
OPPRESS	0	5
OPTICAL	6	0
ORAL	3	4
ORALLY	4	0
ORANGEADE	0	5
ORATION	0	6
ORBIT	2	0
ORCHARD	5	3
ORCHID	5	0
ORDER	2	3
ORDERLY	5	0
ORDINANCE	0	6
ORDINARY	6	6
ORE	2	3
ORGAN	3	2
ORGANDY	0	6
ORGANIC	6	0
ORGANIZATION	0	6
ORGANIZE	5	5
ORIGIN	6	0
ORIGINAL	0	5
ORLON	6	0
ORNAMENT	6	6
ORNATE	0	6
ORPHAN	5	5
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OTTER	4	3
OUNCE	4	2
OUTBOARD	6	0
OUTDOOR	3	0
OUTER	3	0
OUTFIELD	3	0
OUTFIELDER	6	5
OUTFIT	4	3
OUTHOUSE	6	0
OUTING	0	6
OUTLAW	5	0
OUTLET	5	6
OUTLINE	5	4
OUTPLAY	0	6
OUTRAGE	0	6
OUTRAGEOUS	0	6
OUTSIDER	0	6
OVAL	4	5
OVARY	4	0
OVERBOARD	0	5
OVERCOAT	6	3
OVERCOME	0	6
OVERDUE	5	0
OVERHAUL	0	6
OVERHEAD	5	0
OVERLAND	0	6
OVERLOOK	0	6
OVERNIGHT	0	6
OVERSHOES	0	2
OVERTAKE	0	6
OVERTURE	0	5
OVERTURN	0	5
OVULE	5	0
OW	3	0
OWE	2	2
OWNER	5	3
OX	2	2
OXEN	2	0
OXER	0	3
OXFORD	6	3
OXIDIZER	6	0
OXYGEN	4	6
OYSTER	4	4
PACE	3	4
PACKET	5	3
PAD	2	2
PADDOCK	6	0
PAGEANT	6	6
PAID	3	2
PAIN	2	2
PAINTBOX	0	3
PAINTBRUSH	5	0
PAINTER	0	5
PAJAMA	5	0
PAJAMAS	0	5
PAL	2	2
PALACE	3	2
PALE	2	2
PALL	2	0
PALLBEARER	0	6
PALM	2	3
PAMPER	6	0
PAMPHLET	5	6
PANDA	6	0
PANE	2	2
PANEL	4	5
PANIC	6	0
PANT	2	2
PANTHER	3	5
PANTRY	6	2
PANTY	6	0
PAP	5	0
PAPERCLIP	6	0
PAPERCUTTER	6	0
PAPERTOWEL	4	0
PAPOOSE	5	2
PAPPY	3	0
PAR	4	0
PARACHUTE	5	6
PARADISE	0	6
PARADOXICAL	0	6
PARAGRAPH	4	5
PARAKEET	4	0
PARALLEL	5	5
PARAMECIUM	6	0
PARCEL	0	4
PARCH	0	5
PARCHMENT	0	6
PARE	4	3
PARENT	3	2
PARENTHESIS	0	6
PARLIAMENT	0	6
PARLOR	5	2
PARSLEY	0	4
PARSNIP	0	4
PARSON	0	4
PARTIAL	6	0
PARTICULAR	3	4
PARTLY	6	0
PARTNERSHIP	0	4
PASSAGE	5	3
PASSWORD	3	0
PASTEL	6	0
PASTOR	5	5
PASTRY	5	3
PATE	0	4
PATENT	0	3
PATIENCE	6	5
PATIENT	5	4
PATIO	4	0
PATRIOT	5	0
PATRIOTIC	6	5
PATRIOTISM	0	5
PATROL	4	2
PATROLMAN	0	6
PATRONIZE	0	6
PATTEN	0	6
PATTER	6	4
PATTY	4	0
PAUSE	0	5
PAVE	5	3
PAVEMENT	4	3
PAW	2	2
PAWN	6	0
PAYLOAD	2	0
PAYMENT	6	4
PEACE	3	2
PEACEABLE	0	6
PEACEFUL	6	0
PEACOCK	4	5
PEAR	4	3
PEAL	3	2
PEANUT-BUTTER	4	5
PEARL	3	2
PEARLY	0	3
PEASANT	0	5
PEAT	4	3
PEBBLE	4	3
PECAN	5	0
PECULIAR	0	6
PEDAL	4	6
PEDDLE	5	4
PEDDLER	5	3
PEDESTRIAN	6	0
PEDIGREE	6	0
PEEK	3	2
PEER	4	3
PELT	4	0
PEN-POINT	0	3
PENALTY	6	0
PENCE	0	5
PENCIL-BOX	0	2
PENCIL-CASE	0	4
PENCIL-SHARPENE	0	3
PENDULUM	0	6
PENETRATE	0	6
PENGUIN	4	0
PENHOLDER	0	3
PENINSULA	5	3
PENMANSHIP	3	2
PENNANT	0	3
PENNIES	2	0
PENPAL	6	0
PENGUIN	4	0
PENT	0	3
PENTAGON	6	0
PEON	6	0
PEONY	6	3
PEP	3	0
PEPPER	2	2
PEPPERMINT	6	0
PER	0	3
PERCEIVE	0	6
PERCENT	5	5
PERCENTAGE	0	5
PERCH	4	2
PERCUSSION	6	0
PERFECT	3	2
PERFORM	5	3
PERFORMANCE	5	6
PERFUMERY	0	6
PERIL	0	5
PERIMETER	5	4
PERIOD	2	3
PERIODIC	6	0
PERIODICAL	0	6
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PERMANENT	6	5
PERMISSION	5	5
PERMIT	0	5
PERPENDICULAR	6	0
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PERSONAL	5	4
PERSONALITY	5	6
PERSONIFICATION	6	0

PERSPIRATION	0	6
PERSPIRE	0	6
PERT	0	3
PEST	4	2
PET	2	2
PETAL	2	5
PETROLEUM	5	5
PETTY	0	5
PETUNIA	6	6
PEW	0	2
PHANTOM	4	5
PHARMACIST	0	6
PHARMACY	0	6
PHASE	5	0
PHEASANT	4	0
PHILOSOPHY	6	6
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PHONICS	2	2
PHONOGRAPH	5	4
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PHOTOGRAPH	5	6
PHOTOGRAPHER	0	5
PHOTOGRAPHY	6	5
PHOTOSYNTHESIS	5	0
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PHYSIC	6	6
PHYSICAL	4	5
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PHYSICS	6	0
PHYSIOLOGY	0	5
PIAZZA	0	6
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PICK-UP	5	0
PICKER	3	0
PICKET	5	0
PICKUP	4	0
PICTURESQUE	0	6
PIER	5	3
PIERCE	5	0
PIGLET	4	0
PIGPEN	5	3
PIGTAIL	4	0
PIKE	3	5
PILGRIM	0	3
PILL	2	2
PILLAR	6	3
PILLOWCASE	0	3
PILOT	3	4
PIMENTO	0	5
PIMPLE	5	3
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PINECONE	3	0
PINETREE	4	0
PINGPONG	5	0
PINNACLE	0	5
PINT	2	2
PINTO	4	0
PIONEER	4	3
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PIPER	6	2
PIRATE	5	3
PISTIL	2	0
PISTOL	2	5
PISTON	5	0
PIT	2	2
PITCH	3	3
PITCHER	2	2
PITH	0	3
PITY	6	3
PIXIE	5	0
PLAID	3	6
PLAINT	0	6
PLAIT	0	2
PLAN	2	2
PLANET	3	5
PLANK	4	0
PLANTATION	4	5
PLANTER	5	4
PLAQUE	6	0
PLASTER	4	3
PLASTIC	2	0
PLAT	3	0
PLATEAU	5	4
PLATFORM	4	4
PLATINUM	4	5
PLAYER	3	2
PLAYFUL	4	5
PLAYMATE	2	3
PLAYPEN	6	0
PLAYROOM	0	3
PLAYSHED	6	0
PLAYTIME	4	0
PLAZA	6	6
PLEA	5	3
PLEAD	5	5
PLEASANT	3	2
PLEASURE	5	4
PLEAT	5	3
PLEDGE	4	3
PLENTIFUL	0	6
PLENTY	4	2
PLIGHT	0	5
PLOP	3	0
PLOT	4	3
PLOTTER	0	6
PLOUGH	0	5
PLUCK	3	3
PLUG	2	3
PLUMAGE	0	6
PLUMB	6	3
PLUMBER	5	4
PLUMBING	0	4
PLUME	6	3
PLUMP	5	2
PLUNGE	5	3
PLURAL	5	5
PLUS	3	2
PLY	4	0
PLYWOOD	4	0
PNEUMONIA	6	5
POD	4	2
POEM	2	2
POET	4	5
POETRY	2	5
POINTER	5	3
POISONOAK	5	0
POISONOUS	6	5
POKER	4	0
POLAR	5	3
POLAR-BEAR	0	2
POLEVAULT	4	0
POLICEMEN	4	0
POLICY	0	4
POLIO	6	0
POLITE	3	2
POLITENESS	0	3
POLITIC	6	0
POLITICAL	5	5
POLITICIAN	0	6
POLKA	4	0
POLKADOT	3	0
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POLLEN	4	0
POLL[illegible]	5	3
POLLUTION	6	0
POLO	6	0
POLYGON	6	0
POMPOM	4	0
PONGEE	0	6
PONYTAIL	4	0
POODLE	3	5
POOH	3	0
POOL	2	2
POPE	4	3
POPPER	4	6
POPPY	4	2
POPSICLE	4	0
POPULAR	4	2
POPULAR	0	4
POPULATION	4	4
PORCELAIN	0	6
PORCUPINE	3	3
PORE	4	6
PORK	3	2
PORK-CHOP	0	5
PORKCHOP	5	0
PORPOISE	4	0
PORT	3	3
PORTABLE	6	6
PORTAL	0	5
PORTER	0	5
PORTFOLIO	6	0
PORTION	0	6
PORTRAIT	5	5
POSE	3	2
POSITION	5	3
POSITIVE	2	5
POSSESSION	0	4
POSSESSIVE	0	6
POSSIBLE	3	2
POSSIBLY	5	0
POSSUM	4	6
POST-CARD	5	4
POSTAGE	5	5
POSTAL	0	6
POSTER	3	2
POSTERITY	0	6
POSTMASTER	0	6
POSTSCRIPT	5	6
POSTURE	5	2
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POTTERY	5	2
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POULTRY	4	6
POUNCE	6	0
POUT	4	2
POVERTY	6	6
POWER	2	3
POWERFUL	5	5
PRACTICAL	0	6
PRACTICE	3	3
PRAIRIE	3	4
PRAISE	5	3
PRANCE	3	4
PRANK	5	0
PRANKS	0	6
PRAY	2	2
PREACH	5	3
PREACHER	3	3
PREAMBLE	0	6
PREARRANGED	0	6
PRECEDE	0	6
PRECIOUS	5	4
PRECIPITATION	6	0
PREDICATE	5	4
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PREFACE	0	6
PREFER	6	5
PREFIX	3	6
PREFORM	6	0
PREHISTORIC	6	6
PRELIMINARY	0	5
PREMIUM	0	6
PREPAID	0	6
PREPARATION	0	6
PREPARE	5	3
PREPOSITION	6	6
PRESENCE	0	5
PRESENTLY	0	6
PRESERVE	4	6
PRESIDE	0	6
PRESSURE	6	0
PREVAIL	0	6
PREVENT	2	4
PREVENTION	5	6
PRICE	2	2
PRICELESS	0	6
PRICK	6	3
PRIDE	4	3
PRIEST	6	5
PRIM	0	6
PRIMARY	4	3
PRIME	6	4
PRIMER	0	5
PRIMITIVE	0	5
PRIMROSE	0	3
PRINCE	3	2
PRINCESS	3	2
PRINCIPAL	4	3
PRINCIPLE	4	3
PRINTER	6	4
PRISM	6	0
PRISON	4	3
PRISONER	6	4
PRIVATE	4	4
PRIZE	0	3
PROBABILITY	0	6
PROBABLE	0	5
PROBABLY	4	0
PROBE	6	0
PROBLEM	2	2
PROCEED	0	6
PROCESS	5	5
PROCESSION	0	3
PROCLAIM	5	3
PROCLAMATION	0	6
PRODUCE	4	0
PRODUCER	0	6
PRODUCT	3	3
PRODUCTION	4	0
PRODUCTIVE	0	6
PROFESSION	0	6
PROFESSIONAL	0	6
PROFESSOR	5	5
PROFICIENCY	0	5
PROFIT	0	4
PROFITEER	0	6
PROGRAM	3	4
PROGRESS	5	4
PROGRESSIVE	0	3
PROHIBIT	0	6
PROJECT	4	0
PROJECTOR	4	0
PROLONG	0	6
PROMINENT	0	6
PROMISE	4	4
PROMOTE	6	4
PROMOTION	0	4
PROMPT	0	5
PRONOUN	3	5
PRONOUNCE	4	0
PROOF	4	2
PROOFREAD	3	0
PROP	5	2
PROPELLANT	6	0
PROPELLOR	6	0
PROPER	5	3
PROPERTY	5	2
PROPOSITION	0	5
PROPRIETOR	0	6
PROSE	0	6
PROSPECT	5	4
PROSPERITY	0	6
PROSPEROUS	6	0
PROTECT	3	4
PROTECTION	5	5
PROTEIN	6	0
PROTEST	0	4
PROTON	4	0
PROTOPLASM	6	0
PROTOZOA	6	0
PROTRACTOR	5	0
PROUD	4	2
PROVE	4	3
PROVERB	0	5
PROVIDE	4	3
PROVINCE	5	6
PROVISION	0	6
PROVOKE	0	6
PROW	0	6
PROWL	6	3
PRUNE	3	2
PRY	0	3
PSALM	0	6
PSYCHOLOGY	5	0
PUBLIC	4	2
PUBLICATION	0	4
PUBLISH	4	4
PUBLISHER	6	5
PUDDING	4	2
PUFF	2	2
PUG	0	3
PULLET	0	6
PULLEY	4	6
PULP	3	6
PULPIT	0	2
PULSE	6	0
PUMICE	5	0
PUN	4	2
PUNCTUAL	0	6
PUNCTUATE	0	6
PUNCTUATION	5	6
PUNISH	6	4
PUNISHMENT	0	6
PUNK	5	3
PUNT	4	0
PUP	2	2
PUPIL	3	3
PUPPET	3	0
PURCHASE	0	5
PURE	3	2
PURITY	0	4
PURPOSE	5	4
PURR	3	3
PURSUIT	0	6
PUSHCART	0	4
PUSS	6	2
PUSSYCAT	0	2
PUTT	4	0
PUTTER	6	6
PUTTY	4	6
PUZZLE	2	2
PYRAMID	5	5
QUADRILATERAL	6	0
QUAIL	4	3
QUAINT	0	2
QUAKE	0	3
QUALIFY	0	6
QUALITY	4	2
QUANTITY	6	5
QUARANTINE	0	5
QUARREL	0	3
QUARRY	6	6
QUART	3	2
QUARTERLY	0	5
QUARTET	0	4
QUARTZ	5	0
QUAY	0	6
QUEER	2	2
QUENCH	6	6
QUESTION	2	2
QUICKEN	0	3
QUICKLY	3	0
QUICKSILVER	0	6
QUIETLY	4	0
QUILL	6	5
QUITTER	0	5
QUIVER	6	0
QUIZ	3	0
QUORUM	0	6
QUOTATION	5	4
QUOTE	5	6
QUOTIENT	3	0
RABBI	0	6
RABIES	2	0
RACCOON	2	2
RACER	4	2
RACKET	4	4
RADAR	3	0
RADIANT	6	5
RADIATION	5	0
RADIUM	5	6
RADIUS	6	0
RAFFLE	0	3
RAFT	2	3
RAFTER	5	0
RAGE	3	2
RAID	3	2
RAIDER	6	0
RAIL	2	2
RAILING	0	4
RAILWAY	6	5
RAINCOAT	6	3
RAINDROP	5	2
RAINFALL	6	5
RAISE	3	2
RALLY	4	0
RAM	2	2
RAMBLE	6	0
RAMP	3	0
RAMPART	0	4
RANGE	2	4
RANGER	3	0
RANK	4	2
RANSOM	0	5
RAP	2	2
RAPE	4	5
RAPID	5	3
RAPIDLY	6	0
RAPTURE	0	5
RARE	4	3
RASCAL	6	6
RASH	3	5
RASPBERRY	4	3
RATE	2	2
RATING	0	3
RATIO	4	4
RATIONAL	0	5
RATTLE	2	2
RATTLESNAKE	4	2
RAVE	4	3
RAVEN	5	5
RAVENOUS	6	0
RAVINE	0	5
RAY	2	2
RAYON	5	6
RAZOR	5	5
RE	2	2
REACTION	5	0
REACTOR	5	0
READER	2	2
READILY	0	6
READMIT	0	6
REAL-ESTATE	0	5
REALIZE	4	4
REAP	0	3
REAPER	0	6
REAR	4	2
REASONABLE	0	4
REBEL	0	6
REBELLION	0	6
REBELLIOUS	0	6
REBUILD	0	6
RECALL	4	6
RECEDE	0	6
RECEIPT	0	5
RECEIVE	5	4
RECEIVER	6	0
RECENT	6	5
RECEPTACLE	0	6
RECEPTION	0	6
RECHARGE	0	5
RECIPE	0	6
RECIPROCAL	6	0
RECITAL	6	5
RECITATION	0	6
RECITE	6	3
RECKON	0	6
RECOGNIZE	0	6
RECOMMEND	3	4
RECONSTRUCT	0	6
RECORDER	4	0
RECORDPLAYER	3	0
RECOVER	6	0
RECREATION	4	4
RECTANGLE	4	5
RECTOR	0	6
REDBIRD	0	2
REDEEM	0	5
REDHEAD	5	0
REDUCE	0	4
REDUCER	0	6
REDUCTION	0	6
REDWOOD	2	5
REED	2	2
REEF	5	0
REEK	6	3
REEL	3	5
REFER	6	5
REFERENCE	4	4
REFILL	6	0
REFINE	0	3
REFLECT	5	0
REFLECTION	6	0
REFRAIN	0	4
REFRESH	5	5
REFRESHMENT	0	6
REFRIGERATOR	4	5
REFUSE	0	4
REGAL	0	5
REGARD	0	4
REGARDLESS	0	6
REGIMENT	0	5
REGION	5	5
REGISTER	5	2
REGISTRATION	6	0
REGRET	0	4
REGULATION	0	5
REGULATOR	0	3
REHEARSAL	6	6
REHEARSE	0	6
REIGN	6	5
REIN	4	2
REJOICE	0	6
RELATE	6	0
RELATION	4	4
RELATIVE	4	5
RELAX	5	0
RELAY	3	5
RELEASE	5	4

RELENT	0	5
RELIABLE	6	3
RELIANCE	0	6
RELIC	0	6
RELIEF	5	4
RELIEVE	6	6
RELIGION	5	5
RELIGIOUS	0	5
RELISH	5	0
REMAIN	5	3
REMAINDER	4	3
REMARK	5	5
REMARKABLE	6	5
REMEDY	0	5
REMEMBRANCE	0	6
REMIND	4	4
REMINDER	6	4
REMIT	0	6
REMODEL	0	6
REMOTE	6	0
REMOVE	5	4
REND	0	2
RENDER	0	6
RENEW	6	0
RENT	2	2
REOPEN	0	6
REPAIR	5	3
REPAY	5	4
REPEAL	0	5
REPEAT	3	4
REPLACE	6	6
REPLAY	5	0
REPLY	6	2
REPORT	2	2
REPORT-CARD	6	3
REPORTER	6	6
REPOSE	0	5
REPRESENT	5	4
REPRESENTATIVE	4	0
REPTILE	3	0
REPUBLIC	4	3
REPUTATION	0	6
REQUEST	6	4
REQUIRE	0	4
RESCUE	5	0
RESEARCH	4	0
RESEMBLE	0	6
RESENT	0	6
RESERVATION	5	0
RESERVE	6	4
RESET	6	0
RESIDENCE	0	6
RESIDENT	6	5
RESIGN	6	6
RESIST	6	5
RESISTANCE	4	0
RESOLUTION	0	6
RESOLVE	0	6
RESORT	5	4
RESOURCE	4	4
RESPECT	4	4
RESPECTABLE	0	5
RESPECTFULLY	0	4
RESPONSE	0	6
RESPONSIBILITY	4	5
RESPONSIBLE	0	4
RESTAURANT	5	4
RESTORE	0	6
RESTRAIN	0	4
RESULT	5	4
RETAIL	0	6
RETAILER	0	6
RETARD	5	0
RETINA	6	0
RETIRE	6	4
RETRACT	0	6
RETREAT	0	5
RETURN	4	0
REVEAL	0	5
REVENGE	0	6
REVERENCE	0	5
REVERENT	6	6
REVERSE	5	6
REVIEW	4	5
REVIVE	6	0
REVOLUTION	6	4
REVOLUTIONARY	5	4
REVOLVE	6	4
REVOLVER	6	3
REWARD	3	4
REWRITE	5	4
RHEUMATISM	0	5
RHINESTONE	0	6
RHINOCEROS	0	5
RHODODENDRON	5	0
RHOMBUS	6	0
RHUBARB	4	0
RHYME	4	4
RHYTHM	3	0
RIB	4	0
RICE	2	2
RID	2	2
RID	0	2
RIDDEN	3	2
RIDDLE	2	2

RIDER	3	3
RIDGE	3	0
RIDICULE	0	6
RIDICULOUS	6	5
RIFLE	3	3
RIG	3	2
RIGHT-FIELD	0	5
RIGHT-FIELDER	0	5
RIGHTEOUS	0	6
RILL	0	2
RIM	3	2
RIME	0	2
RIND	4	2
RINGER	0	5
RINK	3	3
RINSE	5	0
RIOT	5	4
RIP	2	2
RIPPLE	6	2
RISE	3	2
RISEN	5	2
RISK	3	3
RITE	4	3
RIVAL	5	5
ROACH	6	5
ROADSIDE	0	6
ROADSTER	0	6
ROAM	3	2
ROAR	3	2
ROB	2	2
ROBBER	3	2
ROBBERY	0	5
ROBE	3	3
ROBOT	3	0
ROCK	0	2
ROCKER	6	5
ROCKET	2	5
ROCKY	4	4
ROD	2	2
RODENT	5	0
RODEO	4	0
ROE	6	0
ROGUE	0	3
ROLE	4	2
ROLL-BOOK	0	6
ROMANCE	5	0
ROMANTIC	6	0
ROMP	4	5
ROOK	2	0
ROOMER	0	6
ROOST	0	3
ROOT	2	2
ROOT-BEER	6	6
ROSEBUD	0	2
ROSEWOOD	0	4
ROSTER	5	0
ROSY	0	2
ROT	2	2
ROTATE	4	5
ROTATION	6	4
ROTE	0	5
ROUGE	0	3
ROUGH	3	2
ROUT	4	6
ROUTE	3	5
ROVE	6	3
ROVER	4	0
ROWBOAT	3	4
ROYAL	4	3
RUBBERBAND	5	0
RUBBISH	0	5
RUBY	4	5
RUDDER	5	5
RUDE	4	2
RUFFIAN	0	6
RUFFLE	4	4
RUIN	3	5
RUL	5	0
RULE	2	2
RULER	2	2
RUM	4	2
RUMBLE	4	3
RUMOR	6	6
RUMP	4	3
RUNAWAY	5	5
RUNNER	3	0
RUNT	4	3
RUNWAY	6	0
RURAL	3	0
RUSH	4	2
RUST	2	2
RUSTLE	0	6
RUSTY	4	6
RUT	3	2
RYE	3	2
SABLE	0	3
SACRED	6	4
SACRIFICE	6	5
SAD	2	3
SADDEN	0	6
SADDLE	3	3
SADNESS	5	4
SAFE	2	2
SAFETY	3	2
SAFETY-PIN	0	6

SAG	2	2
SAGE	4	3
SAGEBRUSH	6	0
SAINT	4	2
SALAMANDER	3	0
SALARY	6	5
SALE	2	2
SALESMAN	5	3
SALESWOMAN	0	5
SALMON	3	3
SALON	6	0
SALOON	6	0
SALTPETER	0	6
SALTY	5	0
SALUTATION	0	3
SALVATION	0	3
SAMPLE	3	3
SANDDOLLAR	4	0
SANDDUNE	5	0
SANDLE	4	0
SANDMAN	0	2
SANDPIPER	0	4
SANDSTONE	4	0
SANDY	4	2
SANE	5	2
SANITARIUM	0	6
SANITARY	5	3
SANITATION	0	6
SANK	3	2
SAP	2	2
SAPPHIRE	6	6
SARCASTIC	6	0
SARDINE	6	0
SARDINES	0	5
SARSAPARILLA	0	6
SASH	4	2
SATCHEL	0	4
SATE	5	0
SATEEN	0	6
SATELLITE	5	0
SATIN	5	3
SATISFACTION	0	3
SATISFACTORY	6	5
SATISFY	5	4
SATURATE	0	6
SAUCY	0	4
SAUERKRAUT	0	6
SAUSAGE	6	4
SAVAGE	5	3
SAVER	6	2
SAVINGS	0	3
SAVIOR	0	5
SAWDUST	3	5
SAWMILL	3	3
SAXOPHONE	5	4
SCALD	0	6
SCALE	3	2
SCALP	5	6
SCAMP	0	5
SCAMPER	0	3
SCANDAL	0	4
SCAR	3	2
SCARCE	5	5
SCARCITY	0	6
SCARECROW	5	4
SCARF	4	0
SCARLET-TANAGER	0	2
SCARY	4	0
SCAT	2	2
SCATTER	0	3
SCENE	4	3
SCENERY	5	5
SCENT	4	5
SCHEDULE	4	3
SCHEME	5	5
SCHOLAR	0	3
SCHOLASTIC	5	0
SCHOOLBAG	0	2
SCHOOLBOY	0	3
SCHOOLING	0	5
SCHOOLMATE	0	5
SCHOOLROOM	5	2
SCHOONER	6	0
SCIENCE	2	5
SCIENTIFIC	4	6
SCIENTIST	3	5
SCISSOR	3	0
SCOLD	4	2
SCOOP	4	3
SCOOT	4	4
SCOPE	4	0
SCORE	3	2
SCOUNDREL	0	6
SCOUR	0	6
SCOUT	2	2
SCOWL	0	5
SCRAMBLE	5	3
SCRAPBOOK	5	0
SCREAM	2	2
SCREECH	5	0
SCREW	3	2
SCREW-DRIVER	0	4
SCREWDRIVER	4	0
SCRIBE	6	0
SCRIPT	5	0

SCRUB	5	4
SCUFF	5	0
SCUM	6	3
SCURRY	6	6
SCYTHE	0	5
SEA-SHELL	0	5
SEAGULL	2	0
SEAHORSE	4	0
SEAL	2	2
SEALING-WAX	0	6
SEALION	6	0
SEAM	4	2
SEAPLANE	6	4
SEAPORT	0	5
SEAR	5	3
SEARCH	5	4
SEASHELL	3	0
SEASHORE	2	2
SEASICK	0	5
SEASIDE	4	0
SEAWEED	4	0
SECEDE	0	6
SECESSION	0	6
SECLUDED	0	6
SECLUSION	0	6
SECONDARY	5	0
SECRETARY	2	5
SECRETE	0	6
SECT	0	4
SECTION	6	5
SECURE	0	4
SECURITY	6	6
SEDAN	0	6
SEDIMENT	5	0
SEDIMENTARY	4	0
SEE-SAW	4	0
SEEK	2	2
SEEP	3	3
SEER	0	5
SEGMENT	5	0
SEIZE	0	4
SELDOM	6	4
SELECT	6	4
SELECTION	6	6
SELF-CONTROL	0	3
SELF-RELIANCE	0	6
SELFISH	4	3
SELFISHNESS	0	6
SELLER	6	0
SELVES	5	6
SEMICOLON	0	6
SENATE	4	6
SENATOR	6	6
SENIOR	6	4
SENOR	0	5
SENORITA	0	5
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SENTENCE	2	2
SENTIMENT	0	6
SENTIMENTAL	5	0
SENTINEL	0	6
SENTRY	0	5
SEPAL	2	0
SEPARATE	3	3
SEPARATION	0	6
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SERGEANT	5	6
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SERIOUS	5	4
SERMON	0	4
SERPENT	6	0
SERUM	6	0
SERVANT	6	3
SERVER	0	4
SERVICE	3	2
SERVICEABLE	0	4
SESQUICENTENNIAL		3
SESSION	0	6
SETTLE	4	2
SETTLEMENT	5	5
SETTLER	0	5
SEVENTH	2	3
SEVENTY	2	2
SEVER	6	5
SEVERE	6	5
SEWAGE	5	0
SEWER	4	3
SEX	3	6
SEXTON	0	5
SHABBY	0	4
SHACK	2	2
SHAD	4	0
SHADE	2	2
SHADY	5	0
SHAFT	5	4
SHAG	6	0
SHAGGY	6	0
SHALE	5	0
SHALLOW	4	5
SHALT	0	3
SHAM	6	3
SHAME	2	2
SHAMEFUL	0	5
SHAMPOO	5	5
SHAMROCK	0	4

SHANK	4	0
SHANTY	6	5
SHARE	4	2
SHARK	2	2
SHARPEN	3	3
SHARPENER	3	2
SHARPNER	5	0
SHATTER	0	3
SHAVE	3	3
SHAWL	3	4
SHEAR	2	2
SHEEN	0	6
SHEER	4	0
SHEIK	0	4
SHELTER	5	3
SHELVE	4	4
SHERIFF	4	4
SHERRY	5	0
SHIELD	3	4
SHIFT	4	0
SHILLING	0	6
SHIMMER	6	0
SHIN	3	2
SHINGLE	4	0
SHINGLES	0	3
SHIPMATE	0	6
SHIPMENT	6	6
SHIPWRECK	0	4
SHIRE	5	0
SHIRTWAIST	0	6
SHIVER	5	3
SHOCK	2	2
SHOD	6	4
SHOE-STORE	0	6
SHOEBOX	6	6
SHOEHORN	6	6
SHOELACE	4	4
SHOESTRING	3	4
SHONE	4	2
SHOOK	2	2
SHOONER	0	6
SHORE	2	2
SHORTS	4	0
SHORTSTOP	5	5
SHOT-PUT	0	5
SHOUT	2	2
SHOVE	3	3
SHOW-WINDOW	0	5
SHOWCASE	0	5
SHOWDOWN	6	0
SHOWER	2	2
SHOWN	4	4
SHREW	5	0
SHRILL	0	3
SHRIMP	4	4
SHRINE	0	2
SHRINK	5	3
SHRUB	4	3
SHRUBBERY	0	6
SHRUNK	0	2
SHUCK	6	3
SHUDDER	0	5
SHUT-UP	4	0
SHUTTER	4	3
SHY	2	2
SI	3	2
SICKLE	0	5
SICKLY	0	6
SICKNESS	4	4
SIDEBOARD	0	4
SIDEWAYS	4	0
SIEGE	0	6
SIEVE	6	0
SIFT	5	3
SIGH	2	2
SIGHT	2	2
SIGNATURE	4	3
SILENCE	5	2
SILENT	3	3
SILICON	5	0
SILKEN	0	3
SILKWORM	0	6
SILL	2	2
SILLY	2	2
SILO	5	0
SILVERWARE	4	4
SIMILAR	6	5
SIMILE	6	0
SIMMER	5	0
SIMPLE	3	2
SIMPLICITY	0	3
SIMPLY	0	4
SIN	2	2
SINCE	2	2
SINCERE	6	5
SINCERELY	2	4
SINEWY	0	5
SINFUL	0	5
SINGE	0	3
SINGER	3	3
SINGLE	3	2
SINGULAR	4	4
SINKER	6	0
SINNER	0	3
SIP	2	2
SIRE	5	4

SIREN	4	0
SIS	3	0
SISSY	0	3
SITE	3	2
SITTER	4	0
SITUATE	0	5
SITUATION	0	5
SIXPENCE	0	5
SIXTH	2	2
SIXTY	2	2
SKEIN	0	5
SKELETON	4	4
SKETCH	4	5
SKILL	3	2
SKILLET	6	0
SKIM	6	3
SKIPPER	3	5
SKIT	4	3
SKULL	3	3
SKUNK	2	2
SKY-BLUE	0	6
SKYLARK	0	3
SKYLIGHT	0	5
SKYLINE	6	0
SKYROCKET	0	5
SKYSCRAPER	5	0
SLAB	5	3
SLACK	2	3
SLACKS	3	0
SLAG	0	3
SLAIN	5	4
SLAM	3	2
SLANG	4	5
SLAP	3	2
SLASH	0	6
SLAT	3	2
SLATE	3	2
SLAUGHTER	6	5
SLAVE	4	2
SLAVERY	0	6
SLAY	3	2
SLEDGE	0	4
SLEEK	6	4
SLEEPINGBAG	6	0
SLEEPLESS	0	6
SLEET	3	2
SLENDER	4	5
SLEW	5	0
SLICK	4	2
SLICKER	0	6
SLIGHT	3	3
SLIM	3	2
SLIME	0	3
SLING	5	2
SLINGSHOT	0	3
SLINK	5	2
SLIT	0	2
SLIVER	4	0
SLOB	3	0
SLOOP	6	0
SLOP	3	2
SLOPE	3	4
SLOPPY	3	0
SLOT	2	2
SLOTH	5	0
SLOUCH	0	6
SLOUGH	6	0
SLOWLY	4	0
SLUG	3	3
SLUM	5	3
SLUMBER	4	3
SLUMP	6	0
SLURP	3	0
SLUSH	4	3
SLY	2	2
SMACK	3	2
SMALLPOX	0	6
SMART	2	2
SMASH	3	2
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SNOWSTORM	0	3
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SOCIALSTUDIES	4	0
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SOLUTION	6	6
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SOUTH-POLE	0	4
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SOUTHERN	5	4
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SPAN	5	3
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SPARK	2	2
SPARK-PLUG	0	6
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SPEAR	3	2
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SPECIALTY	0	5
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STAIRWAY	6	5
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STARFISH	2	6
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STARVE	4	3
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STATIONERY	5	4
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STEADY	4	3
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STEAM-SHOVEL	0	6
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STRAIT	4	4
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STRANGER	4	3
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STRATUS	5	0
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STREAM	2	2
STRENGTH	4	3
STRENGTHEN	0	5
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STRIDE	6	3
STRIFE	5	6
STRING-BEAN	0	5
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STYLE	5	2
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SUBURB	0	6
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SUCCEED	0	2
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SUCCESSFUL	0	5
SUCCESSION	0	6
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TERROR	4	6
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THAW	4	3
THEATER	4	3
THEE	2	2
THEME	4	3
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THEREFORE	0	4
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THIRTY-FIVE	3	0
THIRTY-FOUR	3	0
THIRTY-NINE	3	0
THIRTY-ONE	3	0
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THYME	6	0
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TIMER	4	0
TIMES	0	2
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UNDERSHIRT	6	6
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VALOR	0	4
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VALUATION	0	6
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VARIOUS	6	5
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VEAL	0	4
VEGETATION	5	0
VEHICLE	6	5
VEIL	5	3
VEIN	4	3
VELOCITY	6	0
VELVETEEN	0	6
VENEER	4	0
VENGEANCE	0	6
VENISON	0	6
VENT	4	6
VENTILATE	0	5
VENTILATION	0	6
VENTILATOR	0	5
VENTRICLE	6	0
VENTURE	4	5
VERB	3	5
VERSE	5	5
VERTEBRA	6	0
VERTEBRATE	4	0
VERTICAL	5	0
VERTIGO	6	0
VESSEL	5	3
VEST	4	2
VESTIBULE	0	5
VET	6	0
VEX	0	6
VIADUCT	0	6
VIBRATE	6	0
VICE	2	5
VICE-PRESIDENT	3	6
VICINITY	0	5
VICTIM	0	4
VICTOR	0	4
VICTORIOUS	0	5
VICTORY	6	3
VIEW	3	4
VIGOR	0	5
VILLA	0	6
VILLAGE	2	2
VILLAIN	6	4
VIM	0	6
VINEGAR	0	5
VINEYARD	0	5
VINYL	5	0
VIOLA	4	0
VIOLATE	0	6
VIOLENT	0	6
VIRGIN	0	6
VIRGINAL	6	0
VIRUS	6	0
VISABLE	0	5
VISE	6	0
VISION	5	5
VISITOR	6	3
VISTA	0	6
VISUAL	3	0
VISUALIZE	6	0
VITALITY	0	6
VITAMIN	3	0
VIVID	0	6
VIZOR	0	6
VOCABULARY	3	4
VOCAL	5	4
VOCATIVE	0	6
VODKA	6	0
VOICE	2	2
VOLCANO	3	5
VOLLEYBALL	6	4
VOLT	4	5
VOLUME	4	4
VOLUMN	6	0
VOLUNTEER	0	5
VOTE	2	3
VOW	0	4
VOWEL	2	2
VOYAGE	4	3
VULTURE	5	0
WAD	4	2
WADDLE	5	0
WADE	2	2
WAFFLE	5	0
WAFFLES	0	5
WAG	2	2

WAGE	6	5
WAGER	0	5
WAIL	3	2
WAISTCOAT	0	6
WAITER	6	3
WALE	4	0
WALKER	4	0
WALLET	3	6
WALLOP	0	6
WALLPAPER	5	4
WALRUS	5	2
WALTZ	4	3
WAMPUM	0	3
WAN	0	6
WAND	6	2
WANDER	3	2
WANE	0	3
WARBLE	0	3
WARBLER	0	5
WARD	3	3
WARDROBE	0	3
WARE	2	2
WAREHOUSE	6	5
WARF	6	0
WARFARE	0	5
WARMTH	6	6
WARN	2	2
WARP	0	5
WARRANT	0	6
WARRIOR	0	3
WARSHIP	0	6
WART	3	3
WASHBASKET	0	6
WASHBOARD	0	5
WASHCLOTH	5	0
WASHER	4	5
WASHRAG	6	0
WASHTUB	0	4
WASP	3	6
WASTEBASKET	4	2
WASTEPAPER	5	5
WATCH	0	2
WATCHMAN	0	5
WATER-BUG	0	6
WATER-LILY	0	6
WATER-POWER	0	6
WATERCOLOR	5	0
WATERDOG	6	0
WATERFALL	3	4
WATERWAY	6	6
WATT	5	0
WEAK	3	2
WEAKNESS	0	6
WEALTH	5	5
WEALTHY	6	3
WEAN	6	0
WEAPON	6	4
WEARY	5	6
WEASEL	3	0
WEAVE	2	3
WEAVER	4	0
WEB	3	2
WED	3	2
WEDGE	4	0
WEEKEND	4	0
WEEKLY	2	5
WEEP	3	2
WEIGHT	3	2
WEIGHTLESSNESS	6	0
WEIRD	5	0
WELD	6	0
WELFARE	0	4
WEN	2	3
WEND	0	4
WEPT	5	2
WEREWOLF	6	0
WESTERN	4	3
WESTWARD	0	6
WHACK	3	3
WHALE	2	2
WHARF	0	3
WHATEVER	3	3
WHENCE	0	5
WHEREVER	4	4
WHEW	6	0
WHEY	5	0
WHINE	6	4
WHIP	2	2
WHIRL	4	4
WHISK-BROOM	0	6
WHISKER	6	0
WHISKEY	4	0
WHISKY	5	4
WHISPER	3	2
WHIT	5	4
WHITEWASH	0	6
WHITHER	0	5
WHITTLE	5	0
WHIZ	6	0
WHOLESALE	0	5
WHOLESOME	0	5
WHOOP	0	6
WICK	3	3
WICKED	6	3
WICKER	0	5
WIDOW	3	2
WIDTH	5	4
WIENER	0	4
WIFE	2	2
WIG	2	2
WIGGLE	2	5
WIGWAM	6	2
WILDCAT	3	4
WILDERNESS	5	5
WILDLIFE	3	0
WILE	0	6
WILLING	0	2
WILT	3	0
WINDOW-BLINDS	0	4
WINDOW-FRAME	0	4
WINDOW-SILL	0	2
WINDOWBOX	0	3
WINDOWPANE	6	4
WINDOWSHIELD	0	6
WINDPIPE	6	0
WINDSHIELD	6	0
WINDWARD	6	0
WINE	3	2
WINK	2	2
WINNER	2	4
WIRELESS	0	5
WISDOM	6	3
WISE	2	2
WISELY	4	0
WIST	4	0
WIT	4	2
WITCH-HAZEL	0	6
WITHER	5	4
WITHIN	4	2
WITNESS	6	5
WIVES	0	4
WIZARD	4	5
WOE	4	0
WOMANHOOD	0	6
WOMEN	2	2
WONDERFUL	2	2
WOO	4	4
WOODCHUCK	4	3
WOODCUTTER	0	5
WOODLAND	6	0
WOODMAN	0	3
WOODWIND	6	0
WOODWORK	0	3
WOOF	6	2
WOOLEN	0	4
WORKBOOK	2	0
WORKER	4	2
WORKMAN	0	5
WORKSHEET	3	0
WORKSHOP	3	0
WORN	3	5
WORRY	3	3
WORSE	3	3
WORSHIP	5	5
WORST	4	3
WORTH	4	3
WORTHY	6	3
WOUND	3	3
WOVEN	0	3
WOW	4	0
WRAP	0	4
WRAPPER	4	0
WRATH	0	5
WREATH	5	3
WRENCH	4	4
WRESTLE	5	0
WRETCH	0	2
WRING	6	2
WRINKLE	3	4
WRIST	3	2
WRISTWATCH	6	0
WRIT	4	0
WRITER	4	3
WRITTEN	4	3
WROUGHT	0	6
X-RAY	2	0
YACHT	6	5
YAM	4	0
YANK	5	0
YARDSTICK	5	4
YAWN	6	3
YEA	3	0
YEAH	5	0
YEARLY	6	4
YEARN	0	6
YEAST	5	2
YELL	2	2
YELP	5	0
YEW	6	0
YIELD	6	5
YIPE	4	0
YOKE	5	3
YOLK	5	4
YONDER	0	5
YORE	0	6
YOUNGSTER	6	0
YOURSELVES	5	0
YOUTH	4	3
YOYO	5	0
ZEBRA	2	3
ZERO	2	3
ZIGZAG	4	0
ZINC	3	3
ZIP	2	0
ZIPPER	4	0
ZODIAC	0	6
ZOMBI	6	0
ZONE	3	3

TYPED BY: Arlene Paxton

MULTILITHED BY: Margaret Pluid